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yojana

The 7th Plan

let's pause and ponder

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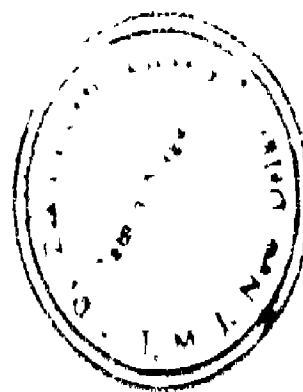
The vision!

"Our economy and social structure have outlived their day and it has become a matter of urgent necessity for us to refashion them so that they may promote the happiness of all our people in things material and spiritual. We have to aim deliberately at a social philosophy which seeks a fundamental transformation of this structure, of a society, which is not dominated by the urge for private profit and by individual greed and in which there is fair distribution of political and economic power. We must aim at a classless society, based on cooperative effort, with opportunities for all."

—Jawaharlal Nehru

(Broadcast to the nation, Dec 31, 195[illegible])

(The Reality—see Cover III)

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Editor

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Let's pause and ponder

DOING THE EXERCISE

Yojana seeks to carry the message of the plan to all sections of the people and promote a more earnest discussion on problems of social and economic development. Although published by the Ministry of Information and Broadcasting, Yojana is not restricted to expressing the official point of view Yojana is issued every fortnight in Assamese, Bengali, English, Gujarati, Hindi, Malayalam, Marathi, Tamil, Telugu and Urdu.

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The authors :

Dr M.S ADISESHIAH – M P. & Chairman, Madras Institute of Development Studies, Madras, KAMAL NAYAN KABRA—Professor, Indian Institute of Public Administration, New Delhi; B. SIVARAMAN—former Member, Planning Commission and Member, Commission on Centre-State Relations K RANGACHARI, former Editor, The Statesman, New Delhi; Prof. M.M. BHATIA— Economist & former Principal Hindu College, New Delhi; Dr. D M. NANJUNDAPPA—Vice Chancellor, Karnatak University, Dharwad; BALRAJ MEHTA—Journalist, New Delhi; E.P.W da COSTA—Director, Institute of Public Opinion, New Delhi.

Let's pause and ponder

SVO

It's time now !

The world we live in presents a strange if not a tragic phenomenon. Truly speaking, today we know what's what but lack integrity and the will to squarely face realities. Let's first look at the world scenario. The super powers, we are made to believe, build up nuclear arsenals only to ensure peace on earth; they work to extend their sphere of influence so that others understand and appreciate their moves; they vie with each other in updating their weaponary systems to fight only tyranny—yes, tyranny of each other's ideology

Their objective is no secret, nor is the strategy—to act from positions of strength and outdo and outwit the other, so that the winner at last could turn this planet into a heaven—yes, a heaven where all enjoy freedom, where there is no want, every one has a job and earns handsome wages to match a living standard which mankind has yet to see !

No cause for worry, we are assured. A nuclear holocaust is unlikely and the arsenals are just to caution the adventurer ! We are thus left with no option but to believe and live on with the hope that all would go well and even Herman Kahn's thesis—"if any one, it would be a high-speed computer which would decide to launch the nuclear war" —will also prove wrong !

Believe it or not, dear reader, the irony of the situation, in a way, afflicts our development scenario as well. We are told, in all seriousness, that all is well with our development strategy and quite soon we should be able to alleviate poverty. Let not, we are advised, the sad part of our 30 years' planning shake our faith and we must look up with hope Banishing poverty, after all, is not a plaything, particularly when 51 per cent of our poor are yet below the poverty line !

True, it's very true, the job is stupendous and we must not give up hope. But, should we not as well pause for a while and give a rather close look at the poverty syndrome and the strategy designed to tackle it ! There are good reasons to do so, we believe

Let's take here only our rural scene. Out of 78.4 million rural households, 7.56 million households own no land at all; another 27.61 million households own only tiny holdings much less than an acre in area. Thus, 35.17 million rural households constituting 44 87 per cent of the total rural households own no land at all or much less than an acre.

Looking at operational holdings we see that 21.5 million households operate no land and 11.7 million households operate tiny holdings much less than an acre in area. Thus 33.2 million rural households operate no land or much less than an acre of land and they constitute 42.34 per cent of rural households. Whatever way you choose to look at about 42-45 per cent of rural households have no access to any land or have access only to very small areas of land.

And now the viable holdings. Those exceeding two hectare each fall in three categories—semi medium, 2-4 hectare; medium, 4-10 hectare; and others above 10 hectare. The semi-medium holdings number 10.7 million or 15.2 per cent accounting for 18.5 per cent of the area. Medium holdings account for 11.2 per cent and about 30 per cent of the area. And the large holdings which number only 3.4 per cent account for as much as 31 per cent of the total area. Such , in brief, is the acuteness of our poverty problem. (NSS 26th Round)

Let's now have a look at the most crucial aspect of the strategy at work to tackle the problem.

For direct attack on rural poverty, our Sixth Plan provides just 7 per cent of the total public sector outlay of Rs. 97,500 crores. Going by statistics alone, with this outlay and the inherent shortfalls, even if we do not miss the overall annual compound growth rate of 5.2 per cent (historically just 3.5 per cent) the task, frankly speaking, seems to be defying easy solutions. The medicine obviously does not seem to suit the poor patient ! What to do, then? This precisely is the question crying for answer.

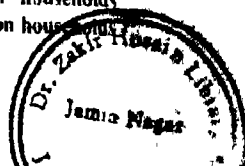
And we have the answer, we believe. There is no plan problem, including radical land reforms, for which we do not have an in-depth study report clearly showing what's what. These reports now cry for action.

Shall we then act! It's time now, perhaps!

—CHIEF EDITOR

Let's pause and ponder

Try now this 1-point programme

MALCOLM S. ADISESHIAH

Adopt just one objective for the Seventh plan, i.e., eradication of poverty, and reshape programmes to develop economy around this single objective. How ? This distinguished author fully explains the way to go about his one-point proposal and also asks us—the top four fractiles of society, including organised labour—living above the poverty line to reply, "are we willing to turn away from a planning system which assures the growth of assets and incomes of the non-poor class, and adopt a plan which will level down levels of living so that by the Eighth Plan we will have no destitutes and poor in the country."

THE FIRST ISSUE that arises is the kind of Plan Frame that we should adopt for the Seventh Plan. For six plans we have proceeded by establishing the objectives, deciding on the overall rate of growth of the economy, estimating the resources required and that are feasible, and using an input output model establishing the various sectoral and sub-sectoral programmes and projects, involving setting targets of physical achievement for each area and sub-area. After over 30 years of planning using this kind of frame, we find that (a) the primary objective of all our plans, that of eradicating mass poverty and countering growing massive unemployment and underemployment, is not being attained, (b) fiscal targets are being attained or surpassed but the physical targets are always missed by a large percentage, (c) inflation and the kind of growth that has taken place has added to the well-being of the well to do small minority and to the ill-being of the poor majority, and (d) that our social objectives and priorities have led us to a system of growing controls which have ensured that the priorities are not attained, and instead have provided a fertile ground for the growth and flourishing of the unrecorded parallel economy.

The fundamental failures

The Draft Five Year Plan 1978—83 expressed this disillusion with the plan frame in the following measured language : "This assessment of India's economic development over a quarter of century of planning has indicated some fundamental failures, and it is on account of these that the need has arisen for a reappraisal of the development strategy. We must face the fact that the most important objectives of planning have not been achieved, the most cherished goals seem to be almost as distant today as when we set out on the road to planned development. These aims—implicit in all our plans, but more explicitly stated in later formulations of our development strategy— are universally accepted by the Indian people: they are the achievement of full employment, the eradication of poverty and the creation of a more equal society'.

And the suggestions !

This deep disquiet with planning and the plan frame-work has led to the suggestion that we should drop planning and plan formulations (Kirloskar 1982), or that we should for the post-sixth plan period drop the frame-work that we have used to date and adopt the French type of indicative planning (Ezekial 1980) or that we should plan only for a more restricted public sector and abolish all licences and controls over the private sector (Bhagwati 1978).

To drop planning and allow the free market to determine the economic progress and development

of the country will require a long period of about two decades of transition to avoid short-term disruption and choices, but even more seriously it will simply leave our poor masses, who do not have the purchasing power to enter the market, where they are, and face a worsening of their condition

The second alternative proposes replacing the present plan framework by an indicative plan frame, under which there will be no firm physical targets, but an indication of demand of the various disaggregated areas of the economy and the desirable

"This deep disquiet with planning and the plan framework has led to the suggestion that we should drop planning and plan formulations or that we should for the post-sixth plan period drop the frame-work that we have used to date and adopt the French type of indicative planning or that we should plan only for a more restricted public sector and abolish all licences and controls over the private sector."

levels of production that they should aim at The resources available will be estimated both on a medium-term and annual basis, and the desirable levels of production adjusted in accordance with these estimates. Above all, the private sector and the market will be dominant in determining the volume of production and its content

In a sense, in a developing economy like ours with many of its open parameters and the need to build the infrastructure and heavy and capital goods industries from nil or near nil, indicative planning was not a feasible proposition. Even now, with the attainment of a certain level of infrastructural and industrial development, the use of indicative planning to guide the economy requires a degree of sophisticated infrastructure and technology which India does not possess. The time is not yet for a move into this area of planning.

The alternative proposal to plan a restricted public sector and leave the private sector to operate in response to market forces sounds attractive, but such a partial planning attempt will come up against the brute fact of the private sector enterprises having backward and forward linkages with the entire economy—with agriculture, manufacture and mining, and within the infrastructure itself

Finally the proposal for a plan holiday arises from the feeling that in plan after plan new projects are started, existing projects are neglected, investment targets and disbursements keep mounting, whereas the achievement of physical targets seems to be receding. A plan holiday for 2-3 years at the end of Sixth Plan, it is argued, will give the economy time to consolidate past investments, achieve the physical targets of the Sixth Plan and provide for proper maintenance of running projects The defect in this scheme is that unless a plan holiday is precursor to a non-planned economy which would be determined by market forces, the plan holiday will simply disrupt the rhythm of production and distribution It is no answer to the problem of non-attainment of targets because it simply makes the five year plan a seven or eight year plan, which in a sense, endorses the lack of monitoring and discipline that marks the implementation problems of the present and past plans

All action at block level

My first conclusion, therefore, is that we should continue for the Seventh Plan with the Plan frame as we have developed it, allowing for decentralization of planning and plan implementation down to the block level through block planning committees, as one way of closing the growing gap between targets and achievements, but even more as the only way of planning for development in a vast sub-continent like India, which will give the people of each locality the option to decide what to produce and when to produce, placing as much emphasis on implementation as on planning There will be state councils coordinating the block level plans and providing for state-wide investments and the national planning commission working under the National Development Council coordinating state and block level plans and itself promoting public distribution and directing infrastructural investment and development

The question of objectives

A second issue for the Seventh Plan is the question of objectives We established 10 objectives for the Sixth Plan . they were not only too many, in some cases there was a trade off between one objective and another, which was not taken into account. The basic conflict in all plans has been between the objective of growth and the objective of social justice. First in over all terms, the plans have not even attained a satisfactory—let alone a high—rate of growth Over the six plans that we have operated,

"A second issue for the Seventh Plan is the question of objectives. We established 10 objectives for the Sixth Plan : they were not only too many, in some cases there was a trade off between one objective and another, which was not taken into account. The basic conflict in all plans has been between the objective of growth and the objective of social justice."

we set ourselves a modest 5-6 per cent rate of growth but attained over the 3 decades of planning a low 3-5 per cent trend rate of growth. But if we decompose this rate of growth, we find that while all farmers attained a two per cent rate of growth, the three per cent of large farmers who own 10 hectares or more, attained a growth rate of 5-6 per cent in one of the growing areas which was studied. This is likely to be of general application over the country.

Similarly in the industrial field, while the trend rate has been 4 per cent, the large companies have recorded a trend growth rate of 12 per cent. The 1977-78 RBI study of 1,320 companies for instance shows an increasing concentration trend in the corporate sector in that 441 large companies with more

than Rs. 1 crore capital increased their share from 70 per cent of total capital of all 1320 companies in 1965-66 to 75 per cent in 1970-71 and 80 per cent in 1977-78.

The antinomy between growth and social justice

But the real antinomy between growth and social justice is to be seen not simply in who grew during the three decades of planning, but what grew during the period. Here the Mid-Term Appraisal of the Sixth Plan helps us to answer the question honestly. In agriculture, it says that the good performers are wheat, rice and sugarcane and the laggards are jawar, bajra, small millets, pulses and groundnut, i.e. those items used by the poor masses i.e. declined. In manufactures the products patronised by rich are produced at high growth rates namely petroleum, paper, machine tools, TV sets, passenger cars, scooters and mopeds, 5-star hotels, while those used by the workers and the poor people namely cloth, fertilisers, commercial vehicles and railway coaches recorded a low, nil or minus growth rate. Here again, what kind of growth there has been, particularly in industries, the Draft Five Year Plan 1978—83 says 'the pattern of industrial development that has emerged over the three decades of planning, obviously reflects the structure of effective demand, which is determined by the distribution of incomes.

An unduly large share of resources is thus absorbed in production which related directly or indirectly to maintaining or improving the living standards of the higher income groups. The demand of this relatively small class, not only for a few visible items of conspicuous consumption, but for outlay on high quality

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"Unfortunately, proposal for the organisation of the poor to determine the block level and local plans and to take responsibility for their proper administration remained only on paper. This innovation should now be revived as part of the decentralization of the plan and its implementation."

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housing and urban amenities, aviation and super travel facilities and telephone services (to which today I would add the five star culture) sustains a large part of the industrial structure. This means the further expansion of the market to produce essential wage goods—the roti, kapada and makan goods—needed by the poor majority, is limited by the narrowness of the market.

The single objective

To highlight my point, I would therefore suggest that we adopt a single objective for the Seventh Plan—namely, the eradication of poverty, accepting the consequences of self-reliance, modernisation, growth etc. and around this single objective develop the agricultural, industrial, infrastructural, education, health and science technology programmes, and decide on the overall resources to be mobilised and the sectoral investments to be made

The major difference between this approach and the traditional one where poverty eradication and|or amelioration is only one of the objectives is that under the latter (which is the planning that we have

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so far followed), poverty eradication is a peripheral activity involving such relief activities as creating some employment through programmes such as NREP and TRYSEM or providing some credit assistance as under IRDP, and going slow on remedial measures like land reform. In the meanwhile the economy in its functioning, as we have noted earlier, is adding to the wealth and well-being of the small top sections of society, increasing the number of the poor and adding to their poverty

In the alternative strategy for the Seventh Plan proposed in this note basic structural changes are involved to deal with the mass problem of poverty. Here again the Draft Five Year Plan 1978 -83, offered a rather innovative approach in an effort to break through the overall bonds and the vicious circle of poverty In a section headed redistributive justice, it states that 'a variety of other redistributive measures are necessary'. These should influence. first of all, the existing distribution of assets, particularly agricultural land, urban real estate, and corporate poverty Secondly, public sector operations should steer the distribution of essential commodities, infrastructural facilities, and social services in favour of low-income consumers. Thirdly, on the production side, the share of small farmers and small village enterprises (including cottage and village industries) in institutional credit and in the supply of material inputs needs to be increased, and their access to technical and marketing asistance improved. Fourthly, policies which minimise unemployment should be expected to reduce inequalities. And, finally, the rural and urban poor have to be organised. Their vigilance alone can ensure that the benefits of various laws, policies and schemes designed to benefit them produce their intended effect'.

What remained on paper!

While this proposal to build a redistributive bias into the entire system of production, distribution and

employment policies was noteworthy, the innovative proposal was the organisation of the poor to fight for their rights and ensure the success of that very redistributive bias in proposed policies. Through such organisation of the poor, organised tenants and share croppers will see that the block planning committees implement the tenancy laws and that land records are completed. Organised landless labourers will see that surplus lands are identified by the block committees (and not hidden using various loopholes in the laws) and are distributed to them in accordance with the law without the legal processes being used

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to hold up distribution of the lands to them . organised poor will see that all area and local plans made by block committees and state councils are effectively administered, their leakages exposed, and the corruption of the administration and the opposition of the well to do farmers and other vested interests countered and corrected.

Unfortunately, this proposal for the organisation of the poor to determine the block level and local plans and to take responsibility for their proper administration remained only on paper This innovation should now be revived as part of the decentralization of the plan and its implementation suggested earlier for the Seventh Plan.

And so change priorities

The single objective, in other words, has a direct bearing on programme priorities and investment decisions. The agricultural programme in the Seventh Plan will not simply attempt more of the same as in the Sixth Plan, more wheat, more rice, more sugarcane, but both the strategy and investments will be turned around to change the crop planning patterns to give priority to the growth of millets, oil seeds, pulses, short staple cotton, to developing a technology for dry farming, and putting more investment resources into these areas, rather than in the traditional green revolution areas, more on the basic non-mechanised minor irrigation works rather than on major irrigation projects.

The block committees and state councils which know the local agricultural situation will adopt the cropping patterns and strategy to local possibilities, including working with the large farmers in the transition proposed. The system of support prices to be decided by the state councils will have a key role in effecting the transition. It is as part of this changed agricultural strategy and investment direction that the land reform programme should be executed in each block, providing income and security needed for the share cropper and tenants, and a speedy land distribution programme, with the real surplus land being some four-times the present reported surplus, all of which depends on the block committees completing the recording of land rights within the first two years of the Seventh Plan. Into this agricultural strategy should also be built the animal husbandry and fisheries programmes of each locality, which should be planned and operated by the cooperatives of small and marginal farmers and fishermen and the decreasing number of landless labour families, which will characterise the latter process of Seventh Plan.

Similar reorientation in manufacturing

In the manufacturing area, there should be a similar reorientation of strategy and investments to concentrate on the production of the part of the wage goods that emanates from this sector. The concentration, as assured by state planning councils, should be on cloth, railway coaches and commercial vehicles, lime and cement, fertilisers, leather goods, forest based manufactures and steel, iron and nonferrous metals and industrial and agricultural machinery and capital goods that are inputs in wage goods production, both in the industrial and agricultural area. Similarly, in the infrastructural area which supports the activities of the poor majority and which will be directed by the National Planning Commission, coal, energy with increasing reliance on bio-gas and bio mass, railways and roads, rural and district, and minor irrigation works should be the priority programmes areas with accelerating investment increases, reducing drastically the very high investment in crude oil production, not only because our reserves are limited and could be exhausted in 30 years, but more because it is a product for the most part being wastefully used by the well-to-do sections of society.

Parallel to the land reforms and land ceilings and distribution in the agriculture area, the term lending institutions which hold the majority of borrowed

"The public sector should be strictly regulated and streamlined to produce the inputs which the kind of production in agriculture, industry and infrastructure will need. To that end and once the objectives and production plan for each enterprise is established, the management should be left free to run the firm along lines of management decisions, without interference from bureaucrats or politicians."

sources and/or equity capital in all major private sector firms should not only ensure that the remaining shares are widely held, but also that the profits accruing are used to a major extent for redeployment in the firm, particularly for modernisation and technological upgradation, and not as a contribution to the increasing assets holding wealth of the private corporate enterprise owner and manager. From this point of view, there should be no distinction between the public sector enterprises and the private sector firms. There is here a need for the owners of resources—

term lending institutions and corporate firms—to agree to use their resources for promoting the single objective.

Under this system of production and investment priorities, we will not face the recurrent problem of shortfall of investment resources or attainment of the physical targets, because the people (block level committees and state councils) will be the decision makers of what they need to produce, how to produce,

"We should continue for the Seventh Plan with the Plan frame as we have developed it, allowing for decentralization of planning and plan implementation down to the block level through block planning committees, as one way of closing the growing gap between targets and achievements."

how they help to raise the resources needed for these purposes. The need to import second-hand capital goods and phased out technology at continuously accelerating prices will be replaced by selective and limited imports which our wage goods, its infrastructure and capital and basic goods production at various stages require. There will then be no need for so-called foreign aid, because these limited imports will be paid for by our exports (cutting out all bulk exports) somewhat along lines of the rupee trade arrangements. There will be no need for our providing unusual incentives to attract non-resident sources, neglecting the resources and requirements of residents. Under these programme priorities, we will learn to live within our means.

Management sans interference

In the Seventh Plan, the public sector should be strictly regulated and streamlined to produce the inputs which the kind of production in agriculture, industry and infrastructure outlined earlier will need.

"The expansion of the narrow market for wage goods which has characterised all our plans will result from the nature of production and quality of its growth and the pumping in of purchasing power by way of grants and/or doles to the lowest two fractiles of the people who are the group suffering from extreme distribution."

To that end and once the objectives and production plan for each enterprise is established, the management should be left free to run the firm along lines of management decisions, without interference from bureaucrats or politicians.

With regard to the private sector, its role will continue to be as the major producer of wage goods needed by the poor majority. For this purpose the present forest of controls should be rationalised, simplified and reduced to a bare minimum, which the priority objective set forth above requires. The expansion of the narrow market for wage goods which has characterised all our plans will result from the nature of production and quality of its growth outlined earlier, and the pumping in of purchasing power by way of grants and/or doles to the lowest two fractiles of the people who are the group suffering from extreme distribution. This is in reality a proposal for a negative income tax for this growth. The few controls that will be needed will be on investment and production in the non-essential consumption goods industries, which will through their backward linkages have the normal transfer effects on intermediates, basic and capital goods investment and production.

In such a situation it will be possible to identify and tax at around 100 per cent unrecorded wealth, incomes and transactions for which no explanation about the sources of such owned resources is made available. The unviable distinction between plan and non-plan funds and projects should be abolished, as all resources will be concentrated on the single objective and its many programmes and sub projects.

The more serious question!

This turn around of the economy can be effected with the kind of plan frame and techniques that we have employed so far, as set forth in the first section.

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the acceptance of the single objective of poverty eradication and its consequence in investments, production and allocation of resources, and the lower or no priority to the production of non-essential items which is the obverse of the content and results of our plans to-date will require a time period and a production and industrial transition which will make the Seventh Plan a transition plan, not fully and wholly reflecting the programme priorities and investment and production directions that flow from its single anti-poverty objective.

More serious than the limitation imposed by the transition stage, is the question of the political feasibility of the kind of Seventh Plan elaborated in this note. Are we of the middle and upper classes—with our major lobbies of medium and large farm interests, industrial magnates, intellectuals and men and women of the liberal profession and even trade unions, who represent by and large, the working people who live above the poverty line—are we willing to turn away from a planning system which assures the growth of assets and incomes of the non-poor class, and adopt a plan which will level down levels of living so that by the Eighth Plan we will have no destitutes and poor in the country. This basic question which is beyond the planning frame outlined in this note needs to be faced squarely and answered for rightly by each of us, of the top four fractiles of society. ◻

It's time to overhaul this planning process!

KAMALNAYAN KABRA

Lamenting at the absence of intellectual leadership in development theory resulting in weakening and thinning of the conceptual and theoretical bases of the plans, the author pleads for overhauling the very planning process and making the Seventh Plan a point of qualitative break from the hitherto stereotyped planning. The development planning, asserts the author, must operate essentially as a political process and as such we must squarely face the fact that the planning function and its relationship with important aspects of economy, polity and society exists in an organic unity.

THERE HAS BEEN a disturbing and uncalled for degree of continuity and changelessness in the thinking governing the practice of planning in India. If nothing else, the very fact of vast change experienced by the Indian society in all its aspects in the period since 1950 necessitates a fresh look at every aspect of planning in India. The incremental change witnessed in each successive plan so far was confined largely to quantitative inter-sectoral, inter-economic activity relationships, and none-too-significant changes in the pattern of sectoral resource allocation. These changes did not amount to a qualitative change, signifying a different perspective on development.

The two happenings!

One may refer to the happening of two basic changes in development strategy both of which were determined largely by forces external to planning. The first one concerning agriculture in mid-sixties was occasioned in no small measure by the breakthroughs in genetic research outside India and the enthusiasm shown for them by the Ministry of Agriculture. The second no less significant change in mid-seventies concerned the nature of articulation of the Indian economy with the rest of the world, more specifically, with developed market economies (whose consequences were partially mitigated by the rapid growth of Indian economic ties with the Comecon countries). This may be summed up as increasing external-orientation. It was induced as much by the limitations, of our methods of import-substituting industrialisation, (which pushed up maintenance imports to disturbingly large levels) as by the role assigned to external-orientation. It was induced as much by the limitations of our methods of import-substituting industrialisation, (which pushed up maintenance imports to disturbingly large levels) as by the role assigned to external finance, technology and enterprise in achieving self-reliance.

Incrementally the plans came to terms with the bursting into open of the latent pressures associated with these two changes. In any case neither of the two changes contributed to bridge the gulf between stated objectives and the reality of plan results. On the contrary, these two changes may be regarded as parts of the problems faced by development planning today, rather than constituting elements of solution.

This unplanned planning!

None of these two major developments have induced the planners to recast the theoretical bases of the plan strategy of development or reorient the nature of the planning process. For example, the developmental role of investment could not retain the same level of primacy as belonged to it in the fifties. This was the message which had to be decoded from the phenomenal increase in the capital-output ratio. It showed the criticality assumed by structural and institutional factors in the development process. The experience of planning has also struck the final nails in the coffin of the trickle-down process which was assumed to reconcile the so-called economic aspects

(growth) with the social (justice and equity) aspects. All these outcomes demolished the assumptions about neutral, catalytic role of political and administrative structures for the development process.

In fact, even at an *a priori* level, it is doubtful if an effective planning process can leave the planning function unplanned, i.e., subject to ad hoc, incremental decisions without *exante* conscious, co-ordinated and collective decision-making. One may well appreciate the basic limitations governing the functioning of the planning agency which was constrained to take the structure of the economic mechanism as given and was precluded from planning for reshaping the basic economic organisation and structure. It may be worthwhile to recall that the passage defining the purpose of planning as "the progressive elimination of social, political and economic exploitation and inequality, the motive of private gain in economic activity or organisation or society and the anti-social concentration of wealth and means of production" in the original draft was replaced by linking the planning process to Directive Principles of State Policy as listed in the Constitution. It may well be argued that after increasing the relative weight assigned to the Directive Principles, discarding the "just and fair equivalent" interpretation of the compensation principle and statutory downgrading of property rights, the planning process need not have taken the organisation and management structure of the economy as an absolute datum, atleast insofar as techno-economic aspects of the planning process are concerned.

Planning as a political process

It may be useful to mention two aspects of the planning process : one relating directly to specific planning functions and the second concerning the relation of planning functions to various institutions,

> **"The experience of planning has struck the final nails in the coffin of the trickle-down process which was assumed to reconcile the so-called economic aspects (growth) with the social (justice and equity) aspects. All these outcomes demolished the assumptions about neutral, catalytic role of political and administrative structures for the development process."**

agencies, rules and behaviour pattern in the society. Any planning of the planning process has to address itself to both the questions in an inter-related manner especially as plans themselves modify their own initial assumptions. There is not enough evidence to suggest that our planners have dealt with such issues. Obviously the impact of such practices becomes substantive.

This brings to the fore the basic limitation faced by overall macro-level planning for the attainment of over-riding national objectives like development or successful waging of a total war in a society in which the planning process has to take most of the critical areas of intervention, especially the institutional, organisational and structural aspects as externally given. Without adopting a functional approach to such questions and imparting a non-ideological malleability to these aspects of the working of the society, the intensity, range and scope of planning becomes non-commensurate with the goals set for it.

Development planning has to operate essentially as a political process. The dilemma is : as a political

> **"The plan and the planners cannot discharge their central task of over-riding and disciplining ministries and management boards of public enterprises on the one hand, and the market processes (of production pricing, inventory-holding, technological choice-making, investment, etc.) on the other, as the lobby of the future and arbiter between various sectional interests."**

process, planning itself is an arena of political struggles and cannot remain a neutral instrument or mechanism for the solution of some 'pure' economic and technical problems. Every so-called technical economic problem has its political counterpart and has to be decided as part of the operation of political processes. The instruments, objectives and processes become so inter-mixed that the idealised model of planning as a techno-economic exercise for exogenously given objectives operating under politically determined parameters no longer remain an operationally meaningful category. The persistence of many practitioners of planning to take a compartmentalised view of the technocratic and political economy aspects has contributed, on the one hand, to sterility of their theoretical exercises and, on the other, to futility and ineffectiveness of their operational, quantitative exercises. The former cannot be translated into operational and meaningful programmes and projects and the latter lack effective means of implementation.

What erodes planning!

Thus the self-imposed 'discipline' of the planners to take, either explicitly or implicitly the institutional structure of the society as given, equally compatible with any and every set of objectives (like agrarian restructuring, Garibi Hatao, self-reliance, diffusion of social, economic regional power etc.) and as non-consequential for the actual realisation of the plan objectives is eroding the effectiveness of planning. If things were not so in reality, one would have expected the planning exercise to show concern with the new decision-centres, new decision-processes and new motivation pattern which have emerged in our midst through a manifold growth (many times larger than the growth of GNP) in the corporate sector, in the income and wealth of the wheat and rice-growers in the green revolution regions, and in many new and old service activities, including the internal and external trade sectors. One may read the plan documents quite carefully and yet not come across any direct and pointed reference to the shifting loci of economic and social power and its impact on and compatibility with the stated objectives of the plans.

Thus, the plan and the planners cannot discharge their central task of over-riding and disciplining ministries and management boards of public enterprises on the one hand, and the market processes (of production, pricing, inventory-holding, technological choice-making investment, etc.) on the other, as the lobby of the future and arbiter between various sectional interests. The public agencies like Central ministries, State Governments and management boards of public enterprises seem to be tolerating the planners as an additional hurdle to be coaxed, cajoled and coerced into 'granting' them the resources, plans, programmes and policies which they are able and willing to pursue with a minimum of cut or 'cumbersome', questioning. In any case, what they do not succeed in makng the planners agree to *ex-ante*, they confront the planners *ex-post*, through their exclusive control over implementation.

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This market mechanism!

Similarly, the market mechanism retains its force. For one thing, the degree of centralisation and concentration has increased as reflected in the growth of MRTP and FERA companies as also in the power of overt and covert land-owning groups, particularly in the agricultural growth regions. Thus, with the incessant tendency of prices to go up with varying speed but without a question about its direction, the long-term and medium-term public investment programme, mainly about some socio-economic infrastructure and to some extent about some Mahalanobis industries, run into a serious problem of erosion of their physical content and internal consistency. The dilemma recently expressed about planning in constant or current prices is no simple technical matter of choice of reference year for 'planning prices'. It is essentially a question whether limited, medium-term planning for public outlays is possible with, by and large, market-determined prices of the major components of the price-index and with largely unplanned, residual use of price increases as a method of financing the plans. This is all the more so presently, when the pricing power in the private hands has become more concentrated today than it was, say, towards the beginning of the planning era.

Review the planning process!

Hence today when we are asking questions about the Seventh Plan, it is essential that a thorough review of the planning process (not in the novice manner attempted by the Administrative Reforms Commission) and the planning function and their relatio[n]ship with important aspects of the economy, poli[ty] and society is undertaken rather than taking refu[ge] under the cover of avoiding political issues, one mu[st] squarely face these questions, taking into account th[e] organic unity in which they exist.

If it is not considered possible to bring under th[e] purview of the planning process various institutional organisational and structural aspects owing to particular configurations of social relations and power, or certain predilections concerning the role of voluntary consent in social change, at least a redefinition of the objectives which are amenable to the currently obtaining range, intensity and scope of planning is certainly an unavoidable necessity. To go on merrily prescribing tasks for planning which are inherently beyond its competence is not only to court failures but also to invite discredit for planning—a powerful socio-economic instrument to which no workable and credible alternative has been found so far.

With severe limits on the prospects of development by inducing accelerated investment, on attainment of social justice by the trickle-down process and on the hope of obtaining socially-responsive business behaviour by exhortations coupled with controls and regulations, one must redefine the feasible set of objectives, even if it means setting the sights low. Planning, being a part of praxiology, refuses to come to terms with unrealism.

Raising the living standards of the masses by giving them working and income-earning opportunities at rising level of productivity, making the development process largely a function of indigenous conditions of development which are only marginally dependent on the buffeting of the external environment are far-reaching objectives which require a whole range of systemic and powerful planning interventions which are not compatible with a jejune and pale planning process which accepts most of the relevant things as given constants. The planners must not become a party to the practice of using planning as a means of winning short-term legitimacy and bring it in ridicule as the clouds of false consciousness are cleared in course of time.

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Let's face realities!

Questions concerning planning process, its possibilities and limitations, relate in the Indian context inevitably to questions of development—its possibilities

and limitations. The arrested and distorted process of socio-economic change was given a sustained dynamic thrust and commendable degree of balance and harmony (especially from the point of building long-term growth potential) by the strategy of development devised and implemented by Indian planning. No case to my knowledge has been made that such achievements as we have had were possible without planning. This, however, is not to deny the existence of cogent and convincing arguments that with more effective planning and a somewhat different strategic perspective, we could have improved upon our actual track record. But that is the name of the game called planning; it demonstrates, on a retrospective view, methods of improving resource mobilisation and of getting better results from them. In order to realise this potential, the planners have to show a high degree of resilence, adaptability and creativity at both theoretical and practical levels.

What has been the experience of Indian planning with regard to approaches to development since 1950? With respect to the concept of development, understanding of the development process, choice of the strategy of development and its counterpart of tactical decisions, etc., one notices two important traits. No *explicit development* perspective of the kind seen in connection with the first two plans has been noticed again, except in a still born form in the Draft Fifth Plan in connection with specified targets of 'elimination of poverty'. Thus, by and large, we are still operating with development thinking which is essentially not markedly different from that prevalent during the early fifties.

"Not much explicit theorising can be seen in the plan documents which have become prisoners of their past. The attacks of the anti-plan lobbies have been so fierce that the efforts of holding their ground exhaust the planners and limit their capacity to break fresh ground."

The new tasks and problems

However, many new tasks and problems emerged during this period. Mention may be made of the tasks associated with a following from the green revolution strategy; issues connected with the success of the policy of raising marginal rate of savings in order to increase the overall rate of accumulation and shift of relative emphasis from tax to non-tax methods of raising financial resources; issues following from the implementation of the Mahalanobis strategy without providing for associated institutional changes, particularly those related to external economic relations and employment effects, etc. At the operational level the planners had to deal with these issues as they appeared. But the approach to deal with these issues was an ad hoc, partial, sector or problem specific one, without a planned approach which involves extension of the area surveyed or of the unit of management in order to decide upon the manner in which such issues with thick inter-sectoral, economy-wise linkages are resolved.

The conceptual and theoretical basis of the plans *tacitly retained its essential constancy*, but, in effect, owing to inappropriateness of accepted theories to the newly *arising situations*, such bases were weakened and thinned. Praxiological action like planning must have adequate, consistent and effective conceptual and theoretical basis if it is to be true to its fundamental character. Planning became weak (despite some formal attempts at its strengthening, like, e.g., by beginnings in the area of multi-level planning or more thorough project identification, formulation and appraisal), among other things, on account of persistence with an initial theoretical framework concerning the process of development.

"An exercise of explicitly stating the theoretical bases of the later plans may show how large is the lag between the growth and refinement of development ideas and their application in a country which is still among the few where such promises exist."

This multi-faceted tragedy !

This was a multi-faceted tragedy. For one thing, in the early phase, our planners had the undoubted intellectual leadership in development theory. Despite fairly deep imprint of cultural colonialism on the thinking of the Third World on development issues, our planners were not only on the front-line of this thinking, but showed considerable ingenuity as well. Over the last three decades, development theory has come of age and, through the feedback between theory and practice, critical creative insights and greater cultural independence, is in a position to impart a greater degree of effectiveness to development planning. But over these years in our country, the gap between existing development theory and actual practice of development planning has widened.

Not much explicit theorising can be seen in the plan documents which have become prisoners of their past. The attacks of the anti-plan lobbies have been so fierce that the efforts of holding their ground exhaust the planners and limit their capacity to break fresh ground. An exercise of explicitly stating the theoretical bases of the later plans may show how large is the lag between the growth and refinement of development ideas and their application in a country which is still among the few where such promises exist.

The Seventh Plan has, among other things, to mobilise this powerful resource of new, well-tested development ideas and restore to its authors a position on the frontiers of development thinking. The conventional wisdom, particularly that emanating from those agencies like the IMF and the World Bank which are under the tutelage of those who are not favourably disposed towards the New International Economic Order, has already made its contribution in landing countries like India into their present impasse. The NIEO and our quest for development are inse-

parable. Hence the need for updating the scientific and theoretical bases of our planning on questions of *development in a spirit of intellectual independence* consistent with the spirit of NIEO or the New Delhi NAM declaration.

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Go in for qualitative break

A large number of issues need to be settled if we have to make the Seventh Plan a point of qualitative break from the stereo-typed planning we have witnessed in the recent past. We conclude this essay with a non-exhaustive, cursory sample of some such issues concerning...

(One) development and socio-economic power;

(Two) employment planning; and

(Three) planning for agrarian restructuring, described here in that order.

One

Is effective national level planning for social objectives possible *with existing distribution* of control over resources as between the public sector and the private sector, particularly the later's organised component? Can one make use of the resources and capabilities of a microscopic minority for setting up investment projects capable of giving employment to the masses and for producing goods for mass consumption? If adequate and effective incentives are to be offered to the controllers of resources, *including* their superb 'capability' to mobilise the resources of public financial institutions for industrial projects, chosen by them, what would happen to the distribution of income, pattern of demand and their combined influence on various aspects of future investments, like their commodity composition, the technology, and locational decisions, etc. Is our *commitment* to such existing institutions more than functional?

Two

If the size of the home market is not widened, but is deepened, can we increase the production of wage-goods to such levels as can make us move towards fuller employment? In the early fifties, it was said that employment objective can be given a higher priority only in the long-run. With that generation passing into history is the long-run still as far away as it was *then*? Any extrapolation of the present employment trends into the first quarter of the next century would make it clear that in the *name of* assigning short-run priority to output over employment, we might have created conditions in which full employment always remains elusive under the present system. Can this kind of planning which has no method other than relief and poor low kind of ad-hoc employment schemes, inspire people for a participative role in planning? Do we not know methods and implications of planning for full employment? Can we not replace planning for per capita income growth by planning for so much of well defined quantities of essential mass consumption goods, for specific groups of people in specific locations over a given time-span? Let us ask ourselves frankly what are the difficulties we are likely to face in making such a transition? Are those difficulties mainly techno-economic or socio-political?

Three

Is it enough to reiterate well-worn cliches and similar quantitative targets and legal-administrative steps for meeting our declared objectives of agrarian restructuring? Has not the question of land reforms reached a socio-economic blind alley? With our growing reliance on rich farmers as engines of agricultural growth management of the good economy strengthening a dispersed class of regionally, linguistically and economically differentiated *capitalist farmers* and their increasing entry into the political and *administrative structures*, is any solution to the vexed question of unequal land holdings and excessive dependence on land as basis for socio-economic survival and power, possible within the sphere of agriculture alone even with all the policies of increasing labour absorption per acre of land in agriculture? This is, without comprehending and making full use of the organic links between agriculture and industry, without relating the two, both through inter-sectoral input-output linkages and through inter and intra-class social relations matrix, and without reducing the relative importance of land as a source of livelihood and power and increasing the role of non-land based economic activities and employment, are any land reforms possible? That is, can a *restructuring of property relations* in agriculture be brought about without *rewriting* the property relations in industry? Is a highly concentrated industrial structure compatible, politically and economically, with a reasonably egalitarian agrarian structure?

One may conclude with some such questions, because, given the present stage of technological development, including in areas of social engineering, it may reasonably be expected that if questions are raised, answers may not be far behind. □

The 2-point calling our immediate attention

B. SIVARAMAN

Quickly evolving equally expert planning bodies at state level to initiate purposeful discussions with the Planning Commission for judiciously assessing people's needs and available resources for preparing a little more meaningful VII Plan; and secondly, making bold to revert back to the 1970 planning goal, "Growth with Social Justice," for planned objectives of growth and taking all the rare to shun the path of populism, are the two crucial points, which says B, Sivaraman, need our immediate attention. A choice, the author asserts, has now got to be made between planned development and feudal approach of a Ma-bap administration spreading poverty and largesse.

PLANNING PROCESS to be beneficial to the communities who can benefit from such a plan, has to be carried out in consultation with the interests concerned. To be effective and worthwhile, one organisation with the necessary competence has to be given the responsibility to consider all the aspects so presented, test them against the Socio-political milieu and the financial possibilities and the state of technology and skill, and offer a package of programmes and projects and suggest approaches both political and administrative to achieve results.

The Union Planning Commission has been given this responsibility. Before the VII Plan can be considered and mutual discussions with all concerned can be initiated, the process may be retarded by the strident controversy amongst the intelligentsia of the constitutionality of the Planning Commission. For this article, let us assume that all concerned will accept the present practice till a better one can be formulated, so that the need for a competent Central Group to advise all concerned may be met for the VII Plan. There is need at this stage for the nation to seriously consider what we are trying to achieve, for whom and with what tools.

Can we fill this gap ?

The planning process has to be carried out in consultation with all the States. Broadly, we have the Central and State Administrations who can somewhat control the Socio-political environment, the finances and skills, or who can, given the will, by effort provide these necessities. Both have to be involved in the consultation. The Union Planning Commission, being a creation of the Central Government, has the necessary authority to discuss and guide the Central Administration in preparation and running of the Plan. It looks into the aspects concerning the States, by consent of the States. But it cannot by itself fully assess the States' needs and capacity to support the need without a similar organisation with the necessary authority in the State, to discuss with the State Administration in detail the requirements and their capabilities and assess the support in finance and skills and administrative competence and then participate in a meaningful dialogue with the Union Planning Commission.

Unfortunately, most writers on the Planning process in India have pointed out time and again that the States have not yet built up any such organisation with the capacity and the authority to guide the State Administration in preparing an effective Plan which can then be fitted into the National Plan.

The participation of the State so far suffers from this lack of a cohesive approach from the State side for a meaningful dialogue with the Central Planners. Can this gap be filled soon so as to make the VII Plan a little more meaningful ?

This meaningless ad-hocism

At the State level, only the Macro infrastructure and Macro investments possible under the various developmental heads can be assessed on the basis of the availability of resources, financial, administrative and institutional. At present the States are trying to divide the micro-level requirements on the basis

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of ad-hoc formulae without reference to the need for the particular investment, the capacity to absorb or the priority of that investment in the local context. This is because there is very little dialogue between the regional and district experts and the beneficiary, the public, about needs and capacity on which alone a meaningful plan with allotments can be drawn up. It is often alleged that the Centre is forcing down a Plan on the States without considering the relative needs and capacity of the States. The relevant dialogue between the Union Planning Commission and the similar body postulated above in the States can answer this criticism.

But creation of the State body may not solve the problem of meaningful response, unless the State body can really assess the relative needs of the various regions and districts, and build this into the Macro Plan. Who can represent the regions and districts in preparing a meaningful plan and properly assess the needs, resources and capacities of the regions and districts ? Had the country harkened to the logic of the Balwantrai Mehta Committee (1955) and honestly worked on its Panchayati Raj institutions, this question would not have arisen. It is the very lack of democratically accepted local leadership, which can translate local expectations and capacities into meaningful approaches to the State Planning body for consideration in the Plan, that has led to the meaningless ad-hocism in our rural, regional and district plans in their day to day life. This socio-political background of animosity to Panchayati Raj cannot be wished away.

For the VII Plan, till logic prevails, we have to find alternative structures which can make do even if not as good as democratic bodies at local level. A serious dialogue on this is needed immediately. The National Committee on the Development of Backward Areas had suggested the organisational frame in its first report "Organisation of Administrative and Financial Structure for Backward Area Development." There has yet to be a meaningful dialogue on these proposals.

Growth "with" or "for" social justice

For whom are we planning and what are we planning for them ? A vast number of our brothers and sisters are living a miserable life in the rural areas and in the slums of the urban areas of the country. In 1970 we raised the cry of 'Growth with Social Justice'. In 1977 we went one better and raised the slogan of 'Growth for Social Justice'. Planners were given the task of translating this into meaningful programmes and projects which are workable. With a modest investment of Rs. 500 crores in the V Plan for programmes of 'Growth with Social Justice' the VII Plan will most likely put by thousands of crores of rupees for this programme.

It will be interesting to note that the latter slogan now rules the roost. This has a significance. Many of these programmes are supposed to deal directly with the uplift of individual families. Though no one can say that all this expenditure is not achieving some progress towards our objective, there is a feeling that we are not achieving to any large extent our objective of Social Justice within a reasonable time frame. We satisfy our conscience by piously repeating that Rome was not built in a day and dealing with millions will take time. Are we being honest : because on the answer to this is dependent the type of planning and execution of plans that the country has to opt for.

A feudal country immersed in the principle of a Ma-Bap government looking after the welfare of the

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people and throwing crumbs of largesse, was pitchforked into a democratic constitution based on 'Adult Franchise' and expectation of a two-party system running the administration. It was a valiant attempt which required continued attention to consciously developing the concept of democracy on sound lines and scrupulsously keeping away from soft options for gulling the public. The great leaders of the freedom movement who conceived this frame of political economy did try to usher in this transformation by using their great hold over the people to compel them to accept the rigours of a rapid change. Man is not immortal and not all can resist the temptation of an easy living that a nascent country could give its lea-

ders. Increasingly the party system led to a Spoils system, however much the leadership may try to minimise this rush.

Time now to choose the goal

The political leadership of whatever hue, by now has absorbed the culture of the 'Spoils System' without which parties cannot be kept together. A parallel and necessary approach to keep people quiet is slogan mongering, gulling the public with scattering of largesse, entertaining the masses and maintaining a hold on the democratic process by making use of the feudal system and its principles Feudalism is not merely based on land and its rights The principle applies to religious feudalism and economic feudalism. The first is as ancient as man but not noticed. The latter is the result of the Industrial Revolution.

In 1977, the Policy of 'Growth with Social Justice' was changed to 'Growth for Social Justice'. This had quite a serious effect on the method of attack on the problem of amelioration of the weaker sections. 'Growth with Social Justice' necessitated planning for general growth of all concerned but the State was to help the weaker sections with subsidies and access to the necessary infrastrcture, so that some Capital transfer can take place and all the technological inputs in the strategy for growth in the rural areas can give results neutral to scale of operations. The entire technological revolution in the rural sector in agriculture, animal husbandry, fisheries, horticulture and forestry was neutral to scale of operations provided all the participants had equal access to the infrastructure and facilities offered by the State

Unfortunately, as the present writer pointed out as far back as the early Seventies, there is an inherent fallacy in the theory of neutralism to scale because the weaker sections never had the access to the infrastructure and the State facilities due to interference and pre-emption by the well to do. As a result of this valid criticism, the programme emphasised the need for the administration to ensure the fair distribution of the facilities and access to the infrastructure as a necessary part of the programme The Small Farmer's Development Agency was a direct answer to this criticism. Within an irrigation command, the small farmers were to be given subsidies for land management and guaranteed a fair share of the available waters and inputs. By the slogan 'Growth for Social Justice' the emphasis was sought to be changed to a policy of development of the weaker section alone. The general growth was forgotten. Strangely this also followed from the slogan of 'Garibi Hatao' where the weaker sections were to be the beneficiaries. Too much concentration on removing poverty made people forget the need for general growth to support an attack on poverty. Unfortunately in the rural sector the interests of the community and the user of land was so intimately connected that an attempt to develop only a scattered part of the community or the land will be counterproductive.

"The participation of the States so far suffers from lack of a cohesive approach from the State side for a meaningful dialogue with the Central planners. Can this gap be filled soon so as to make the VIIth Plan a little more meaningful?"

"We satisfy our conscience by piously repeating that Rome was not built in a day and dealing with millions will take time. Are we being honest: because on the answer to this is dependent the type of planning and execution of plans that the country has to opt for."

Why not go back to 1970 !

The aborted VI Plan sought to steal a march over the previous leadership by seemingly wholeheartedly supporting the weaker sections and deliberately cold shouldering the better off. It was a popular slogan but a bad development approach. The policy tried to achieve the impossible separating the growth of the weak from the general growth. The deliberate cold shouldering of the better off triggered a vicious backlash on the poor beneficiaries. If there had been a general growth programme, the better off may not have tried to deliberately deny small benefits to the weak Further, any identificatio of th poor left out a similar or larger mass of the rural not so poor but those who certainly were not affluent and needed State support. This added to the backlash. Can the VII Plan correct this error and go back to 1970?

Projects in which people's cooperation is not needed, and which are developed and accomplished by technocrats, administrators, expert consultancies and through the market forces, are generally easy of accomplishment. As such the programmes in Industrialisation, Communication, Transport, Information and General Construction are generally accomplished according to the Plans. Even though the Time-schedule may not be reached.

Further as a general rule, all these Macro Projects end up in total cost far exceeding the original sanctioned estimates. The Plan tries to balance between the people's programmes and these Macro-programmes of infrastructure, so that balanced growth of the infrastructure and the primary, secondary and tertiary growth with a spread affect in Social Justice can be achieved This general tendency to underestimate the Macro infrastructure projects while taking sanction, but ultimately demanding more and more funds, always creates an imbalance in sectoral growth.

We see everywhere capacities in the infrastructure unutilised and leading to insufficient production and skewness in expected benefits to the mass at large.

And what ails people's projects ?

At the same time, it has to be pointed out that people's projects where we seek Social Justice and a spread effect in distribution of National Growth, lag behind all the time and due to various inbuilt defects in approach rarely give even proportionate results on expenditure achieved. There are enough studies of the Project Evaluation Division of the Planning Commission and other Studies by various institutions to support this statement. Year after year, projects like IRD., DPAP., SFDA, and so on, appear to surrender large parts of their budget, even after depositing funds indiscriminately in Deposit Accounts for future expenditure.

"Feudalism is not merely based on land and its rights. The principle applies to religious feudalism and economic feudalism. The first is as ancient as man but not noticed. The latter is the result of the Industrial Revolution."

There is also a tendency in these programmes to divert more and more to infrastructure programmes easy of accomplishments and fall behind in programmes directed at family welfare. Thereby Social Justice lags behind. In drawing up the Vth Plan the Planning Commossion drew attention to the need for close monitoring and ensuring the performance in accordance with Plan expectations For this, budget control only is not the answer. Close performance audit and the authority to get things corrected is necessary Even though the Planning Commission has been given the authority to monitor and advise the Cabinet, the authority of the Planning Commission to do close performance audit is always questioned The States which have to accomplish the bulk of the people's programmes which can result in Social Justice have not even given their planning bodies the right to Plan! Is there a will to correct all this in the VII Plan?

"Unfortunately, there is an inherent fallacy in the theory of neutralism to scale because the weaker sections never had the access to the infrastructure and the State facilities due to interference and preemption by the well to do."

If all the statements from the political leaders of the States and the Union are to be believed, it is only lack of funds that is preventing them from fulfilling the modest expectations of the people that the Union Planning Commission feels they can fulfil if financial management is properly attended to. In a less developed country like ours, we have to pull ourselves up by the shoestrings, overall funds for development will always be limited. We cannot wish away this basic constraint of history. It is wisdom to husband the available resources for the best cost-benefit investment with the maximum possible growth with spread effect.

This game should end now !

Certainly, keeping the poor contented by the largesse as the affluent contries can afford is out of the question. Planned objectives of growth should not be deviated from whatever the temptation to seek a path of populism. Under-estimating projects and programmes is one method of getting into the Plan both urgent and not so urgent items and when populism is ascendant, concentrate on the not so urgent but compelled by the soft option of populism allow the needed programmes to go to the wall and plead lack of funds This game has been going on ever since the planning process started and we have not found a political consensus to play according to the rules of the game. In spite of the low per-capita income, the people have come up ungrudgingly to increase savings for investment to the high level of 23 per cent. There is no scope for milking the cow further. Nor is there scope for getting foreign aid to supplement our resources without mortgaging our freedom. There seems to be no escape from financial propriety.

"The question all of us have to face is whether we want a planned development with Social Justice or carry on with a feudal aproach of a Ma-Bap administration spreading poverty and largesse—the path of populism. People will get the plan they deserve."

There has been another unhealthy practice in the budgetetting of the States which is eating into the Plan resources Invariably the non-plan expenditure of the the States is allowed to expand far in excess of agreed figures mainly by embarking on all sorts of populist programmes with very little permanent growth potential and thereby reducing available funds for the agreed plan. The VI Plan performance in this aspect is really staggering There is a serious fear that deficit financing without any consideration of monetary stability and a sharing by all may be postulated as elections approach on the plea that what America can do we should do. In the VIIth Plan we cannot afford to carry on with such Devil's logic. The question all of us have to face is whether we want a planned development with Social Justice or carry on with a feudal approach of a Ma-Bap administration spreading poverty and largesse—the path of populism. People will get the plan they deserve.

All that we need doing now!

K. RANGACHARI

"There is much that is wrong with our present planning system and very little thought has gone into the desirable lines of reform", says the author, and adds, "it may be unrealistic to expect that all the changes can be effected within the time now available for finalising the Seventh Plan. A start can, however, be made with a meaningful association of State governments and the organised private sector".

THE PREPARATIONS for the formulation of the Seventh Five Year Plan have been marked by a lively debate on the appropriateness of following the strategy and methods adopted so far with mixed results in the achievement of our planning objectives. The doubts raised are quite justified. Competent observers of Plan formulation and implementation processes are agreed that our planning has fallen into a deep rut mainly because it has become bureaucratic. The format of the plan document is stereotyped. We look in vain for ideas and approaches based on the rapidly changing national and international context in which the Indian economy has to adapt and pursue its development objectives. Yojana Bhavan seems to finalise its quinquennial task much in the same way as an income tax assessee completes his annual return, the difference being that it fills up long chapters instead of columns and tries to find new phrases to express almost the same views of the familiar excuses for shortcomings. Planning has, therefore, to be liberated from the stranglehold of the bureaucrats who have made it a routine affair and should be entrusted to mature experts and seasoned administrators.

Playing the game safely

The model adopted for the second and third five year plans, usually referred to as the Mahalanobis model, was somewhat controversial but today most critics will agree that it has well served the purpose of laying the foundations of infrastructural development on modern lines and diversification into heavy industries through the instrumentality of the public sector. This valuable contribution does not imply that the initial pattern was good for all time. Fresh thinking was, however, inhibited by the interruption of the planning process between 1966 and 1969, described variously as a phase of consolidation or plan holiday, and the subsequent politicisation of economic policy during which both experts and officials preferred to play safe by following the beaten path.

The first occasion for seeking innovative methods arose after the breakthrough in agriculture, often referred to as the "green revolution", in the late sixties. The Fourth Plan began well with a relatively stable price level but soon ran into the usual problem of inflation. Later came the first world oil price crisis. Troubled political conditions in the country bedevilled the finalisation of the Fifth Plan. Though the Indian economy recouped its strength by the final year of the plan in 1978-79, the contribution of the plan itself to this outcome was minimal. Again, political changes intervened to compel changes also in the composition of the Planning Commission and the preparation of a fresh Sixth Plan draft which in the circumstances could only be somewhat pedestrian, avoiding anything innovative or controversial in terms of a new approach or strategy.

The changed economy

The Indian economy has undergone many changes during the three decades since planning began. Success in agriculture has helped moderate the fluctuations in output between years of severe drought

and good rainfall. This is the result of extension of irrigation use of modern inputs like improved varieties, hybrids, fertilisers and plant protection material, policies for supply of credit, remunerative support prices and power supply to farmers using pump sets. The farmers using these inputs are different from those of the earlier generation who regarded agriculture as a way of life and not being commercially motivated, were too slow to accept modernisation of techniques.

This attitudinal change, though not quite complete yet, is well on its way and has to be extended to the rain-fed and drought-prone areas. While planning of

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an "indicative" type can now be adequate for the farmers in the irrigated areas who readily respond to facilities and incentives, a more intensive programme of motivation may be needed in the drought-prone areas to spread dry land farming methods, create subsidiary off-season occupations and help to tide over periods of unforeseen financial losses due to natural causes. This is necessary both to keep up the overall rate of growth of agricultural production and to make an impact on rural poverty which is most acute in these areas.

The crucial public sector

Outside the agricultural sector also, there have been qualitative changes. The commanding heights of the economy are now firmly under the control of the public sector as a result of investments in heavy industries and all infrastructure areas and the nationalisation of all financial institutions, coal, oil and substantial proportion of transport. For this area directly under the public sector, a centralised type of planning is inevitable. Such planning has to be continuous, both by the managements of the autonomous public sector undertakings and the Central or State Governments concerned in the case of departmentally managed units. The operations of these public sector units have crucial importance for the rest of our mixed economy. Hitherto, the backward and forward linkage have not been as clearly planned as is desirable, judging by recent experience of power, coal, railway transport deficiencies and their adverse effects on the economy.

The policy on the mixed economy has never fully succeeded in the proper coordination of investment decisions and measures to ensure efficiency in the use of capital. Since the end of the Third Plan, there has been an impressive growth of small and medium industries and self-employment in professional areas. This growth has provided the base for steady development of entrepreneurial talent which was in short supply at the beginning of the plans. Ways in which these decentralised areas can be given further scope for contributing to economic expansion will have to be found, also in order to maximise employment opportunities for the educated. Faced with highly complex problems such as these, the Government appears to think it has done its duty by merely issuing directives to banks to give more credit, which is only one aspect of the matter and can only follow the formulation of viable schemes.

Planning has virtually become exercises in target-setting for outlays and achievements not only by the public sector but also by the large private sector comprising millions of farmers, small businesses and leaders of organised private industry. Except for the corporate sector, there have been no firm estimates of the actual investments achieved in the private sector or the probable trends. Though the planners talk of targets for agricultural production, in actual fact there is no means of forecasting what the cultivators will choose to invest or even what they have actually produced, except that output trends can be broadly guessed on the basis of price and supply conditions and consumption by industry of agricultural raw materials like jute, cotton or sugarcane.

Similarly, the existence of about 24,000 small industries on the permanent sick list shows that planning for this sector is weak and based only on the hope that credit, availability of machines and the possibilities of growth in demand will stimulate investment. The extension of the Union Excise Duties to producers above certain minimum limits has yielded some data but only where taxation is not habitually evaded. However, this decentralised sector is a very important area in which the objective of providing

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employment opportunities can be pursued, but the techniques so far devised fall far short of the needs.

The growth vs. stability

From time to time, debates on planning policy have faced the question as the degree of emphasis to be placed on stability in relation to growth. Invariably the conclusion has been that since growth has to be accelerated some risks should be accepted in the matter of price stability. In practice, however, the policies adopted were such as to impair both stability and growth. Deficit financing has become a

normal feature of Plan outlay and the availability of this soft option has removed the need to observe restraints on public expenditure. The quality and content of Plans are allowed to be determined by the size of the public sector outlays rather than by the effective use of capital. Invariably the outlays targets are fully achieved but as a result of the inflation caused in the process of incurring the outlays with large budget deficits, investment in real terms is reduced to what would have been the proper or desirable level of outlay if deficits had been avoided or at least kept within reasonable limits.

This sacrifice of stability has been one of the major reasons for the public disenchantment with planning. Inflationary outlays do not even have the compensating advantage of creating more employment. In the initial stages of Planning, there was some substance in the argument that by raising outlays beyond the visible resources, efforts to raise more resources will be encouraged. However, resource mobilisation even beyond the plan targets has not helped since there have been continuous diversions to non-plan and non-development expenditure.

And the handicaps!

This is only one aspect of the Planning Commission's powerlessness to influence the many economic forces which have a bearing on plan performance. Yojana Bhavan can only make some informed guesses about the probable levels of foreign trade or foreign aid. Monetary policy is not within its control. Interest rates which have great relevance for private investment may be regulated according to the needs of anti-inflationary policy, or of the profitability of banks in the context of their responsibilities for the new priority sectors even if the high rates curb investment. Black money and the parallel economy also distort price and supply trends besides thwarting whatever egalitarian objectives the plans have claimed to promote. Not the least of the failures is the inability of the Commission to ensure that past investments yield sufficient return for making future investments. For the last two decades, the Commission has been pleading in vain for measures to make States' irrigation charges cover the cost of maintenance and yield at least a part of the interest on the capital invested. Appeals to State Electricity Boards to adopt economic pricing to meet costs and interest charges have similarly failed to get any response.

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In the light of these shortcomings, the plans need not cover every detailed aspect of the nation's life even though the Governments, Central or State, may have to follow certain policies and incur expenditure as part of their obligations in a welfare state. Nor is it the duty of the Planning Commission to help prepare the ruling party's political manifesto and trim its outlays or recommend policies accordingly. This, however, is the unfortunate result of too many Central Ministries being made members of the Planning Commission. Since the Plan is of an advisory or recommendatory document and the implementing agencies of the government can adapt or modify the details according to the practical needs or possibilities in each area, a great deal of decentralisation of planning is possible and should be attempted.

"State governments should be required to set up their own small planning cells to set out the priorities of the State and ways of allocating the available funds. It is necessary to discourage the present practice of the States of drawing up overambitious lists of schemes as though they are aiming at bringing the millennium within a five-year span."

Even if the Prime Minister or the Union Finance Minister has to be associated with the Planning Commission to give it the necessary prestige and political support, the Commission should really function as an expert body, preparing the overall resources framework within which outlays in the Central, State and private sectors have to be incurred. The Commission can also indicate the variations in emphasis from plan to plan. This will mean that the Commission will restrict itself to the micro-economic exercises now forming the first part of the plan document, but with greater exactness in its assessments. It should take into account the practical possibilities in the totality of the circumstances, political, social and economic, and indulge much less in the wishful thinking which now passes for planning.

Here is the way out!

This overall framework should cover the trends in growth of national income, the desirable levels of consumption and savings and the sectoral investment allocations based on achievements and the actual gaps identified. The Seventh Plan should make special provision for the increase in consumption of the population now at the bottom levels of the income scale, which implies that the rates of savings should not be assumed at the high levels which have involved acute deprivation and destitution for about 30 to 40 per cent of the poorest households. Within the broad sectoral allocations, the Central Ministries, State governments, organised industry should draw up their respective programmes, with the Planning Commission effectively co-ordinating their exercises to avoid overlapping of functions and competing claims on resources which are in excess of the amounts allocated or available for each sector.

(Continued on page 25)

Now put agriculture in the lead!

B. M. BHATIA

"Strongly advocating the cause of agriculture through new orientation to agricultural price policy, restructuring agrarian relations and rural-urban income distribution, the author suggests a 3-point strategy for the seventh plan. The three points are: (i) switching over from emphasis on industrialization and infrastructure to modernisation of agriculture and rural development; (ii) restricting allocation of resources for public sector; and (iii) urgently introducing accountability into the planning system".

PLANNING WAS CONCEIVED in India as an instrument for initiating "a process of development which will raise living standards and open out to the people new opportunities for a richer and more varied life". In the context of stagnant economy with backward agriculture and a tiny modern industry sector that free India had inherited from its colonial past, this meant fostering rapid growth of the economy through massive public sector investments on the one hand and modernization of productive processes in the economy on the other Only the State could perform these stupendous tasks in an organized way. Hence the need for planning

In the thirty-two years of planning that we have behind us, much has been achieved. A stagnant economy has been dynamicised. With all the fluctuations of fortunes, caused by a variety of factors, a 3.5 per cent trend growth rate of National Income has been achieved in the first 28 years of planning from 1950-51 to 1978-79. This is in contrast to 1.2 per cent growth rate of the economy in the pre-independence period, 1900-01 to 1945-46. There was hardly any basic industry established in the country before independence; today we have a solid base in key industries for raising on it superstructure of all types of modern industry. The country stands 10th from the top among the industrial nations of the world. In the earlier years of our independence, perhaps the single biggest economic problem facing the country was food shortage. This problem has been overcome and the country is now practically self-sufficient in food supply. The two principal industries of India at the time, cotton and jute, suffered severe shortage of raw materials because the base of their supply was cut off from them as a result of partition, 82 per cent of the raw jute area and 40 per cent of the cotton growing area in undivided India falling to the share of Pakistan. The shortage of these two critical raw materials has long been completely overcome so much so that we have even some export surplus left, after meeting fully the requirement of our own industries in both these crops. The growth rate of agricultural production has been stepped up to 2.7 per cent during the period 1950-51 to 1978-79 from the miserable 0.2 per cent rate during 1900-01 to 1945-46.

Another indicator of the progress made by the country in the post-independence period is the variety and volume of our defence production and the strides that the country has made in nuclear and space technologies. India has come to be counted as a major power in South Asia because of, among other things, the strong industrial base she has built for herself and the progress she has made in the production of some of the sophisticated defence weapons.

The unfulfilled task

Indian planning has thus impressive record of achievements to its credit. And yet the original

purpose of planning which was to remove poverty and unemployment and improve quality of life of the common man remains unfulfilled. The percentage of population living below the poverty line today is as much, if not more, as at the time of independence. The number of people unemployed and under-employed has risen significantly over the years, according to Planning Commission's own admission in the Sixth Plan document. While overall foodgrains production in the country has gone up, per capita availability of coarse grains which form staple diet of the poor in the rural areas and pulses which are the main source of protein in vegetarian diet, has gone down. In fact, while population has almost doubled since independence, production of coarse grains and pulses has shown little increase over this period.

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What ails planning?

There are some other weaknesses that have shown themselves up in its working in the planning system of the country. With the progress of planning, capital costs of projects have tended to rise with the result that capital-output ratio in the economy has doubled from 3.4 per cent in the first plan period to 6 8 per cent now. Partly this is the result of inflation in industralized countries which supply us the industrial plant, machinery and equipment for our plan projects. But largely it is due to our own faulty planning, long delays and inefficient execution of the projects Very often projects are included in a five year plan, without adequate preparations in terms of feasibility reports, costs and sources of finance and credit. Hardly any heavy capital cost project in agriculture or industrial field has been executed in the stipulated time-duration in the entire era of planning in the country. All this has led to increase in capital cost in practically every individual case and raising of capital-output ratio in the economy as a whole

There is an underlying assumption in Indian planning that growth is a function of level of investment. Working on this assumption public sector plan outlays have been enlarged at successive plans and yet this has not made much difference to the growth rates achieved during these plans. Thus the annual growth rate of National Income in the first five year plan was 3.6 per cent, in the Second 4 per cent, in the Third 2.2 per cent, Fourth 3.3 per cent and Fifth 5.2 per cent. One wonders whether capital outlays or weather conditions in the two terminal years of a five plan determines the growth rate in the plan period in India.

The increasing outlay in successive plans and the mounting non-plan public expenditure over the years have landed the country, in spite of the growing tax squeeze, into a situation where deficit financing has become an inevitable feature of annual budgets of both the Central and State Governments. This accounts primarily, if not wholly, for the state of chronic inflation inflicting the country since the mid-sixties.

This foreign aid!

Dependence on foreign aid is another adverse feature of the country's present day planning. In its earlier days when the saving rate in the economy was about 6 per cent of G.N.P., supplementing of meagre domestic capital resources with foreign aid was a necessity. But in the last several years the saving rate in the economy has averaged twenty per cent or more. One would have expected the economy to "take off" with this rate and become self-reliant. But facts have turned out to be different : We have become even more dependent on foreign aid than before Fifth Plan envisaged zero net aid at its end. In the Sixth Plan, for financing the total public sector outlay of Rs 97,500 crores, provision has been made for Rs. 9,929 crores or about 12 per cent of the total outlay to come from foreign aid. Besides we have raised a short term loan of 5.2 billion S. D. Rs. (about Rs. 5400 crores) from I.M.F. to finance our current balance of payment deficit. The goal of self-reliance which we had cherished for so long has now receded into the background and there is little hope of our being to do without foreign aid in the foreseeable future.

We have a system of five year plans which permits us to change the development strategy and directions of planning every five years, according to change in circumstance and state of the economy at the time a new plan is formulated. The framing of the Seventh Five Year Plan provides us with the opportunity to change our course and give a new direction to planning in the country to make it more purposeful, efficient and result-oriented.

"Over the years functioning of public corporate as well as departmental enterprises have suffered steady erosion of public accountability. A stage has now been reached where there seems to be little connection left between investment and yields, merit and reward, efficiency and recognition and the quality of management and returns from an enterprise."

The 3-point strategy!

Broadly speaking, three categories of changes are required to be made in our approach and system of planning.

One

Firstly, we have to change the strategy of development and with it the order of priorities in planning. The emphasis on industrialization and infrastructure must give way to that on modernization of agriculture and rural development.

Two

Secondly, allocation of resources for public sector industrial projects should become far more restrictive hence-forth. This is required to cut down waste, and leakage of funds as also losses in the working of the existing public sector enterprises but also reduce if not altogether eliminate forthwith dependence on foreign aid for implementing our five year plans.

Three

Thirdly, some sort of accountability has to be built into the system of planning. At present, it is, practically, completely missing.

The first five year plan had assigned highest priority to agriculture partly because of the urgency of the problem of the critical agricultural shortages country was facing at the time and partly because the planners realized that a second agricultural base was absolutely necessary in this country for raising an industrial superstructure. Influenced by the prevailing dogma among the development economists in the West which equated development of an underdeveloped economy with modern industrialization, the Second plan went all out for building up quickly a heavy industry base which would serve as the foundation for the country's industrialization.

This was the beginning of the approach to development which has been with us since then. Some modifications have been made in later plans in favour of agriculture but the underlying idea that development means industrialization which, therefore, is to be

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given highest priority in our development plans, has remained intact. What is required to be changed now is this ingrained bias in favour of urban industry in our future development effort. There are two good reasons why this should be done.

The two good reasons!

The first is that agricultural sector still occupies a dominant position in the Indian Economy in terms of contribution to gross national product, occupation of labour force and provision of basic necessities of life to the people. Agriculture accounts for 40 per cent of India's GDP, provides employment to 68 per cent of the country's labour force and supplies practically the whole food needs of the people and raw material needs of the major industries like cotton textile, jute, and sugar. Adverse agricultural conditions in any year spell adversity for the entire economy in that year and vice verse. Agricultural products still constitute a substantial portion of our export trade and the health of agriculture, therefore, remains an important factor in determining the fortunes of our

"The increasing outlay in successive plans and the mounting non-plan public expenditure over the years have landed the country, in spite of the growing tax squeeze, into a situation where deficit financing has become an inevitable feature of annual budgets of both the Central and State Governments."

annual foreign trade balance. Agriculture also determines, in a major way, the growth rate of industry in as much as the purchasing power available in the agricultural sector decides the size of domestic market available to industries producing mass consumption.

The second reason for giving much greater importance to agriculture in planning than we have done so far is the realization now of the fact that this country cannot solve its problems of poverty and unemployment in any foreseeable future by going along the model of development preached earlier by Western economists. Even those economists now have by and large, realized that the development model advocated by them earlier has created more problems for the Indian economy than it has solved.

More than 200 years ago Adam Smith had stated that the growth rate of an economy, in the ultimate analysis, depended on growth rate of its agricultural sector which produced food, and that the limits to growth of an economy were set by the limits on the capacity of agriculture to produce surplus for sustaining the non-agricultural population. This view got eclipsed in the course of industrial revolution in Europe which was accompanied by imperial expansion of Britain and countries of West Europe in Asia and Africa. The European imperial powers were able to draw their supplies of food stuffs and raw materials for their industries from their colonies and were thus enabled to grow industrially without feeling the need for a corresponding growth of their domestic agricultural production. The dissolution of European empires since the end of the Second World War, has changed that situation.

Development economists have begun discovering that teachings of Adam Smith and other classical economists are more relevant to the problems of Third World countries today than those of late nineteenth and the present century theorists. India can solve its development problems only through putting

agriculture in the lead in its five year plans. A beginning in that direction should be made with the Seventh Plan.

And the implications!

This has its own policy implications : not only the order of priorities in the allocation of plan resources is to be changed but a new orientation has to be given to agricultural price policy, restructuring of agrarian relations and rural-urban income distribution. If our concern in the development effort is with raising living standards of the people and improving quality of life of the rural as well as urban poor and not with the dry statistics of growth rate of gross domestic product, as ought to be the case, we must given a new turn to planning along the suggested lines.

This aid syndrome!

The second direction of change required in our own present system of planning is drastic reduction in our dependence on foreign aid except that coming from international agencies like I.D.A. affiliate of the World Bank. In the light of actual experience in the last three decades, the whole theory of growth of developing countries through foreign aid has come into disrepute in recent years. It is now becoming clear that aid, if not use intelligently and efficiently by the recipient country, as most often is the case with the developing countries, becomes a drag rather than aid to development. Aid, like inflation, feeds on itself. Once a country begins getting it freely, it becomes prone to getting into the aid syndrome which makes it difficult, if not impossible, for it to dispense with it. It remains a developing economy, needs more and more aid as it goes along rather than become self-reliant and develop export surplus to service the accumulated foreign debt. That has been the experience of most developing countries since 1950s and India is no exception. The gordian knot is to be cut and we must learn to do with least amount of foreign aid for our development effort. A beginning in that direction may be made with the Seventh Plan. That would only need our shedding the concern for achieving a set gap growth target and for that having a plan size worked out on the basis of an assumed capital-output ratio, for achieving that target. This change in the system of planning should have an extremely salutory effect on the management of the available resources. It would help in cutting down wasteful expenditure and stopping leakages of funds.

And the most important!

The third and perhaps the most important reform needed in our existing planning system is the injection into the system of accountability on the part of those put incharge of administration of public fund. Over the years functioning of public corporate as well as departmental enterprises have suffered steady erosion of public accountability. A stage has now been reached where there seems to be little connection left between investment and yields, merit and reward, efficiency and recognition and the quality of management and returns from an enterprise.

Two factors are responsible for this situation. The first is the political interference in the day-to-day working of the public enterprises; the second the conduct and irresponsible attitude of trade unions which in this country, have become highly politicised. This is the result of our ideology of making the public sector occupy "commanding heights" in the economy. In the light of our current experience in the matter, will it be too much to expect that no further expansion of public sector is attempted in the Seventh Plan and the existing enterprises are insisted upon to show much better working results than in the past.

Time has come when we have to call halt to these dangerous trends. Market principles have to be introduced into the working of the socialist sector of the economy. This need not be a taboo to our socialist ideology. Even Communist China has found it necessary to do that. ☐

(continued from page 21)

Such an approach involves a radical re-structuring of the present set-up for planning. The States have been demanding greater autonomy within their area of Constitutional responsibilities and the outcome of the Sarkaria Commission's inquiry will have to be awaited for the final picture of Centre-State relations in sharing developmental tasks. However, there are certain things that can be done even now on which there can be general agreement. State Governments should be required to set up their own small planning cells (with an economist, senior administrator and perhaps an engineer or other specialist) to set out the priorities of the State and ways of allocating the available funds. It is necessary to discourage the present practice of the States of drawing up over-ambitious lists of schemes as though they are aiming at bringing the millennium within a five-year span.

Similarly, the organised private sector acting through its representative apex bodies can be required to prepare investment proposals for the various sectors for the Planning Commission's final approval in consultation with the Central or State Ministries concerned. A serious defect of the present set up is that though the plan provides for a very large private sector outlay, there is no representation at the non political level in the Commission to articulate the interests or needs of agriculture, organised or small scale industries and private transport. All these are expected to conform to the paper schemes drawn up in the departmental backrooms by persons who do not know what is happening outside in the widely varying conditions of a vast country.

There is much that is wrong with our present planning system and very little thought has gone into the desirable lines of reform. It may be unrealistic to expect that all the changes can be effected within the time now available for finalising the Seventh Plan. A start can, however, be made with a meaningful association of State governments and the organised private sector. ☐

Let's pause and ponder

Let's plan now without this urban bias

D. M. NANJUNDAPPA

Elucidating the existing rural-urban disparity syndrome Dr. D.M. Nanjundappa pleads for saying go by to the urban bias in Indian planning. If improving the lot of the poor is the real objective, so asserts the author, we must now make bold and impose a moratorium at current levels on urban facilities and spare more resources, energy and administration for uplift of the rural economy.

OF LATE, there has been a revival of emphasis on the development of the rural economy. This is evident from the fact that Planners and Policy makers are making specific resource allocations in the plan for rural development. While it is not known on what allocation criterion, 40 per cent outlay on rural development is being often mentioned as something that must be achieved, it must be admitted that even this thought has entered the policy discussions at the time of the formulation of the Sixth Five Year Plan. For most of us who are familiar with the plan documents, there is one thing which strikes us glaringly. And that is the approach to the plan, objectives, techniques, and priorities covering issues relating to growth, savings and investment, private and public sectors, instruments of policy, inter-sectoral balances, etc. When it comes to inter-sectoral balances, which are relevant to my theme, the approach is one of referring to the broad industrial agricultural sectors, sector profiles, and of commodity balances. Seldom do we come across the recognition of the need for rural urban balance as an important inter-sectoral balance in the process of development.

The thesis and the clue !

The First Plan said, "the necessary incentives for the producer cannot be created unless the prices of alternative crops are controlled. In the case of certain key commodities, it may be necessary to keep down their prices in order to obviate the need for price rises in several industries which use these commodities." Here one finds a clue to the thesis that agricultural prices are to be depressed in order to promote industries and exports which is the main strategy of the planning process Resources are squeezed from agriculture and industries have since developed mostly in towns and metropolitan cities. The first shot of urban bias was fired.

Credit should be given to the Second Plan for categorically stating that "it seeks to rebuild Rural India to lay the foundation of industrial progress and to secure to the greatest extent feasible opportunities for weaker and under privileged sections of our people and balanced development of all parts of the country". Thus, for the first time, you find something which may be nearer a concept like balanced development of rural and urban parts of our economy. It is, however, unfortunate that policies required for establishing such a rural-urban balance were not pursued in a consistent analytical frame. Instead, notwithstanding the objective of improvement of the living conditions of the masses, the pattern of development has moved on contrary lines. The rural-urban disparity has been ever increasing over the plan periods reaching an alarming dimension provoking disharmony between them.

The minimum needs concept

While it is true that some priority in resource allocation was given to housing in rural areas and the spread of primary education in the rural areas in earlier plans, the issue has to wait until the Fifth Plan for the introduction of the concept of the basic minimum needs of the rural economy which has been further extended in the Sixth Plan. After the Second Plan, it appears that the thrust has been in favour of regional considerations. Among the objectives, progressive reduction in regional inequalities has been mentioned in the later plan documents. Even under

this garb, the policy thrust is one of comparing how one state compares with another in the matter of industrialisation or in the matter of per capita income. The result is that some more resources are given to qualifying states by a change of the formula for distribution of central assistance. This does not necessarily mean that such resources will be used for the development of the rural economy.

"When it comes to inter-sectoral balances, the approach is one of referring to the broad industrial-agricultural sectors, sector profiles, and of commodity balances. Seldom do we come across the recognition of the need for rural-urban balance as an important inter-sectoral balance in the process of development."

The rural-urban imbalance is increasing due to a bias in favour of urbanites for several reasons and this takes also several forms. The urban bias is that an indefensible share of resources and services are systematically allocated to urban areas ignoring the possibility of achieving optimum benefit if the same are to be allocated to the rural areas. The process is combined with so structuring of the developing policies as to provide rural people with inefficient and unfairly few services. The urban bias is a result of the machinations of the urban power club comprising politicians, civil servants, university teachers, business men, trade union leaders and rich farmers who are in the centre of the power struggle in the Government, whose interest and incentive is to spend their time almost fully in big cities enjoying disproportionate benefits of modernisation.

How this urban bias works !

How subtly and strongly urban bias works in the decision process can be made clear from a few examples. Prices for foodgrains are deliberately depressed for the sake of cheap supplies to urban organised classes and in the name of price stability. Agricultural wages are kept low while industrial workers continue to get rising wages.

In the matter of energy, it is the shortage of power for the industrial sector which is always drummed-up. Shortage of power for the agricultural sector never gets to the forefront. In the matter of rural electrification, it is the number of villages electrified which is an index to the progress while the more crucial would be how many households in each of such villages have got the benefit of electricity. The present indications are that not more than 2 or 3% of the households are electrified. The difficulties caused by lack of adequate power for all electrified homes is highlighted, whereas the crisis faced by the rural poor because of non-availability of firewood is never understood properly. Industries continue to be located in urban centres notwithstanding the tall talk of decentralisation or giving of incentives for location in less developed areas. In the matter of transport, it is the national highways, state highways and city and town roads which get the priority. But the villages which are yet to be connected by all-weather roads are still hanging on even after 3 decades of planning. Inter-village roads which are important for growth of dynamic activity in a cluster of villages are yet to get priority. Resources become available for air transport under the guise of earning foreign exchange or of the needs of industry, trade and Government not caring for the fact that those who avail themselves of air transport are those who meet the expenditure out of the public or company funds. Tourism has been catapulated into priority, sanctum sanctorum, on the ground that it is a foreign exchange earner. It is anybody's observation that most of the Five Star hotels are occupied by nationals themselves, the foreigners forming a small fraction. Resources are poured into building up of new Five Star hotels and the development of the Five Star culture.

More about this bias

Again television (colour ?) has a higher priority over the rural needs. When it comes to health, the tendency is that the urban hospitals are prone to get the most sophisticated equipment while the rural areas are still starved of the elementary health services. Water supply is yet another area where hundreds of crores of rupees will be easily made available for the metropolitan cities, whereas for villages water supply is still a major problem and promises are made to cover all villages with drinking water wells in the coming years. Protected piped water supply is far from the priority agenda judged in the context of the coverage achieved so far.

"Notwithstanding the objective of improvement of the living conditions of the masses, the pattern of development has moved on contrary lines. The rural-urban disparity has been ever increasing over the plan periods reaching an alarming dimension provoking disharmony between them."

In the matter of housing, rural housing has seldom received the attention of the planners it deserves while physical and financial resources continue to pour in plenty for housing in the urban areas. In fact, quite a good deal of the construction activity in the urban areas is being justified on the ground that there is a housing shortage. Very few realise that the type of houses which are constructed in the urban areas are certainly not for overcoming housing shortage. It is mostly for luxurious display utilising

the extra money that is available with the urban people. Rural housing especially for the poor is looked down with jaundiced eyes and with cryptic remarks that it is an unproductive programme and that houses constructed at low cost using local resources will collapse in no time. Under taxation of agriculture is alleged without a clear idea of subsidies incentives, and exemption limits, and tax arrears in the urban sector. There is a ceiling on land holdings but there is no proposal even to impose a ceiling on urban property.

The main requirements of the rural areas centre in the first instance on the basic minimum needs like elementary education, rural health, rural housing, rural water supply, rural sanitation, nutrition, rural roads, rural storage etc. But the planners have never set to themselves a minimum time limit within which the collective facilities are to be provided. It is unfortunate that some kind of a residual approach is adopted in determining the outlays on the basic minimum needs.

In a crucial matter like the rural storage facilities, it is good to note that the country has nearly 97 lakh tonnes of rural storage facilities But the locations of the storage point are mostly in the metropolitan cities and other urban centres, with a view to be able to moving the foodgrains to urban centres easily and quickly. The consequence is that foodgrains from such storage houses are not easy to reach rural places. Moreover they are beyond the reach of the common farmer and he seldom gets the advantage of such storage facilities. It should not be difficult to plan for rural storage facilities in a manner which would help the rural economy. Here again the argument has been that such locations will add to the costs of urban consumers.

For decades, the problem of the middle men in the farm sector has been talked about. How is it that the social input like the organisation to eliminate

"The urban bias is a result of the machinations of the urban power club comprising politicians, civil servants, university teachers, businessmen, trade union leaders and rich farmers who are in the centre of the power struggle in the Government, whose interest and incentive is to spend their time almost fully in big cities enjoying disproportionate benefits of modernisation."

the middlemen has not been seriously considered for implementation? The only answer is that the urban pressures and the manipulations of the urban traders are too powerful to break for the sake of the rural poor.

And these financial institutions

If this is the picture on the side of the Government funds, that of the institutional resources like the Commercial Banks and the Development Banks is still more depressing. A large number of financial institutions like ICI, ICICI, IFC, IDBI, IRCI, etc. were all set-up to look after the financing of industries and their rehabilitation, wherever necessary. A similar institution for agriculture was not to be thought of for 3 decades despite the importance of agriculture to the Indian economy. The National Bank for Agriculture and Rural Development has now been set up three decades after the beginning of planning. The manner in which it functions is yet to be evaluated.

It is no doubt emphasised that for raising the weaker section above the poverty line and to improve

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the incomes of the subsistence population, improvement in skills and capabilities of individuals in that group are necessary and therefore science and technology should come to the rescue. Even here it is often said that improved implements will have to be provided to the farmers ; but there is still no massive effort for realising this objective. Tractorisation in a State like Panjab went beyond the limit where it led to both increases in output as well as in employment. This was pointer to evaluate the technology which was being pursued there. In the case of bio-gas plant, technology is yet to be developed to meet the needs of the poor who posses one or two cattle. We are yet to improve the implements used by the coblers, sheep rearers and the like.

Why such priorities ?

When we are yet to improve the productivity of our millions of artisans by giving them the required technological support, we often hear the argument that we should go in for advanced technology for modernisation in the industrial sector so that we will not be out of date when compared with other nations.

In the matter of providing electricity to the poor households we are yet to develop a technology which would be safe for the huts or houses with straw roofs. All this would underscore the priority that should be accorded to rural needs in the sphere of scientific and technological effort.

The Commercial Banks also have a severe urban bias in their lending. The rural deposit-credit ratio shows that even the rural deposits find their way to urban areas. Although the so-called priority sector includes agriculture, the share of Commercial Bank lending for agriculture seldom exceeds 15 or 16 per cent of the total advances. The explanation is that the funds are required elsewhere (urban areas). Even after the introduction of Integrated Rural Development scheme with considerable subsidies from the

Government, the corresponding flow of resources from the commercial banks are not forthcoming in the order expected for some reason or the other. Lack of infrastructure and proper environment in villages due to the heavy urban bias has added to the gravity of the problem.

Why should this country continue with such priorities although it was noted in the First Plan that after the first five years, priorities have to change? Why should a country go without the basic minimum needs in rural areas even after 30 years of planning? Can the answer be that the urban pressures are too strong to release more resources for the rural needs and more social inputs for the development of the rural sector?

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This growth and development

Growth and development in our country have done so little to raise the living standards of the poorest people. The conditions of progress as laid down by Colin Clerk called for the development of the secondary and tertiary sectors to absorb larger proportions from primary sector as a model leading to maximisation of welfare have not so far given any hope in this country of its achievement, let alone the reduction in disparities between urban and rural welfare. On the contrary, the disparity syndrome is becoming more and more stable and stronger.

If we are to postulate that rural welfare will increase more rapidly and catch up with urban welfare given more resources and services to the rural sector than to the urban sector, conditions of efficiency and equity are to be fulfilled.

The paretian efficiency criterion suggests that a system is efficient only if it can produce its present bundle of outputs with less inputs (by rearranging the way in which inputs are combined among two or more lines of production and by improving the techniques in the line of production). In other words, the paretian condition is that a system is efficient only if we cannot produce more of any product from the same level of inputs (by rearranging inputs among products and or by improving any technique in any production line) without reducing the output of any other product.

The equity norm must imply, among other needs distributing long run income so as to maximise welfare. In a country like ours, an extra income typically distributed will do more to raise welfare in rural areas than in urban areas. Existing income is distributed even more unequally within the urban areas than within the rural areas. Therefore, welfare is bound to be increased more by allocating available extra income to the rural poor rather than the rich.

Shift resources now!

If a policy of raising rural incomes productively is efficient, it will normally give under-employed poor a better chance of getting employment and thus raise their welfare. Government action to raise urban incomes productively, however, is likely to concentrate on lines of production with high wages, skilled workers, frequently powerful unions and prospects of overtime also with high ratios of capital to labour and therefore of profit income to wage income. It is thus obvious where prospects of a major impact on poverty from a given extra income would be better, even if rural average incomes were not below average urban incomes. Therefore, if a shift of resources from city to village improves efficiency, an equity improvement can usually be taken for granted.

The reallocation of public investment, while increasing the income of rural sector at the cost of urban sector, should not change the structure of output in such a manner as to harm the poor.

The major concern is for generating savings to finance capital formation and thereby development. The squeezing of agriculture for savings for urban growth has been argued veryingly by leading experts. The basis for their argument seems to be: since more than half the national income was generated in agriculture in less developed countries, the bulk of savings had to come from that sector. However, they had nothing to say about allocations for such a sector and in consideration of efficiency in output. Professor Kaldor argued: "It is only the imposition of compulsory levies on the agricultural sector itself which enlarges the supply of "savings" in the required sense for economic development. W.W. Rostow said that "agriculture must supply expanded food, expanded markets and expanded supply of loanable funds to the modern sector. These leave no doubt that the "dispositional urban bias is the cause rather than the result of elite's frequent belief that abstruction and centralisation and planning have little scope for changing the rural life.

"It is a well-known fact that substantial savings in the public sector as well as in the private sector are spent on new secretariats, new bank offices, new premises, airfields, grand sports grounds, beautification of cities, memorial halls etc. In all the urban capitals, one notices that enormous investment is made in providing more resources for new buildings for housing the staff."

And this strange logic!

Let us look at the argument of savings a little more. If higher incomes accrued to the rural poor either

because of higher wages for services or because of higher prices for farm products, the poor will consume most of the income because they are poor and therefore there will be nil or insignificant savings which would affect the growth of economy. The bias objective of planning is to improve the living standards of the masses. If the poor eat well, they are criticised as not contributing to savings. If the rich eat more and spend more on unproductive schemes, it is taken as capital formation and as a sign of modernisation. What a strange logic! This is nothing but the urban bias manifesting in one of the most inhuman forms. If more savings are needed, they are to come from the Government and from its undertakings but not from the hungry and starved.

The poor are capable of saving provided they are first made to satisfy their hunger. It should be possible for the Government to generate more savings and redeploy them in the rural sector.

It is a well-known fact that substantial savings in the public sector as well as in the private sector are spent on new secretariats, new bank offices, new premises, airfields, grand sports grounds, beautification of cities, memorial halls etc. In all the urban capitals, one notices that enormous investment is made in providing more resources for new buildings for housing the staff. May we ask the question : Why not wait until the villages are improved by diverting such savings to rural areas? Will the Urban Power Club reconcile to this?

Class interest in operation!

Systematic action to keep down food prices clarifies the operation of the class interest in urban bias. In the rural community, the big farmer, when he gets a good price for his output, can buy new equipment from the village artisan who in turn may get the services of others. When food becomes cheap, this sort of allocation of income is transferred from the

"Industries continue to get located in urban centres notwithstanding the tall talk of decentralization or giving of incentives for location in less developed areas. In the matter of transport, it is the national highways, state higways and city and town roads which get the priority."

village to the city because it is in the city that the urban worker will spend most of the money he needs no longer to buy food.

In the urban areas, it is too costly for the employer to do without the labour aristocracy who enjoys higher wages largely because it is small. If foodgrains are cheaper, it is cheaper to pay them off and with easy capital subsidies, employee's level can be kept low.

Thus, the conflict turns out to be one between the gainers from dear food and gainers from cheap food and between the villager and the urban industrial employer-cum-proletariat elite.

The basic premise guiding the allocation of resources is that more capital formation is required and that sectors which can generate more surpluses or get larger resources would in turn finance capital formation.

Agriculture is associated with less investment at the margin being accompanied with two or three times as much extra output as non-agriculture investment.

"As Fanon puts it: the rural poor of the interior, the 'black country', would remain 'the wretched of the earth after colonialism—and even after neo-colonialism—until they mobilised against urban power or else urban power realised that rural development was necessary for its own security."

If this is so, more resources must be ploughed into agriculture. But agricultural savings are transferred to pay for non-agricultural investment. The marginal principles of allocation of resources between city and country, between industry and agriculture, is not followed. It reveals an almost unique awareness of urban bias. As Fanon puts it : "the rural poor of the interior, the 'black country', would remain 'the wretched of the earth after colonialism—and even after neo-colonialism—until they mobilised against urban power or else urban power realised that rural development was necessary for its own security." "Exploitation can have a black or a brown face, as easily as a white face; its modality is chiefly urban to rural."

The bias in the outlay!

Our discussion of efficiency of agricultural outlay leads us to believe that larger proportion of the total development outlay in the plans should be going to the rural sector. The statistical base is rather poor and imprecise to evaluate what has happened. However, an efforts is made to construct some data on some assumptions to assess the extent to which the urban bias is found in the matter of allocations.

It is true that in the Sixth Plan, for the first time a very large outlay of Rs. 5,363 crores has been provided for rural development. This covers Integrated Rural Development and the related programmes, National Rural Employment Programmes, Special Employment Programmes, etc. In addition, agricultural sector has been shown an outlay of Rs. 5,695 crores. For Special Area Programmes including development of backward areas, an outlay of Rs. 1,480 crores have been provided. Irrigation including flood control has an outlay of Rs. 12,160 crores. Thus Rs. 24,704 crores may be treated as having been devoted to the rural economy directly out of total public outlay of Rs. 97,500 crores.

(Continued on Page 34)

First act to revive the Mahalanobis spirit!

BALRAJ MEHTA

Spelling out the "tilt" in policy tending to minimise the role of development planning, the author suggests revival of the Mahalanobis model before drawing up the new plan priorities. In absence of it, adds the author, the 7th plan exercise would look a formality while "the economic process runs its own merry course unrestrained and unfettered by the development plan".

AFTER THE MID-TERM APPRAISAL of the Sixth Five Year Plan was presented to Parliament and the people, the question was what follow-up action would be taken on its basis, especially because the shortfalls and lags in the implementation of the plan and the realisation of its targets in real terms were admittedly found to be casting their shadows on any meaningful perspective for development planning itself. There are some who have indeed begun to question openly the role and need of planning and have cynically suggested that economic growth is better achieved without planning rather than with planning Indian style. It will be pointless in these conditions if attempts are made to put on a gloss on the real state of affairs and side-track real issues in development planning.

Take, for instance, the manner in which the overall rate of growth of the economy is being measured for the first three years of the Sixth plan period and the rate which is being projected for its last two years before the Seventh comes into operation. It is claimed that the average growth rate of the economy in the first three years, 1980-83, adds up to as much as five per cent which is only marginally lower than the plan target of 5.2 per cent. It is also suggested that but for the set-back on account of drought in 1982-83, the growth rate target of the plan would have been exceeded.

And the snag here!

But there is a snag here. The growth rates achieved and projected in the case of the Sixth Five Year Plan are calculated taking the year 1979-80 as the base. The year 1979-80 was, however, an exceptionally bad year which had recorded negative growth, absolutely and relatively. Starting with that depressed base, the average growth rate of 5 per cent during the first three years of the Sixth Five Year Plan, 1980-85, and the projected growth rate of 4.9 per cent for the entire plan period is only superficially impressive and indeed deceptive. The fact is that 1980-81 barely recovered the ground lost in 1979-80 and if 1980-81 recorded some good positive advance, the subsequent year, 1982-83 witnessed a sharp deceleration in growth. If, therefore, correction is made for the depressed base and a meaningful trend rate of growth is taken into, it will be found that the growth rate so far during the Sixth Plan is around 3 to 3.5 per cent and no improvement is to be expected in this respect for the plan period as a whole.

"The set Hindu growth rate"!

We are thus still stuck with the trend rate of growth which Prof. Raj Krishna, a former Member of the Planning Commission, once humorously characterised as the set Hindu rate of growth which the Planners and the implementing authority have always found impossible to improve upon in the established social and economic structure and power system in the country. This order of growth can, of course, be achieved without any planning at all and those who do not have faith in planning and never had it may claim to be more correct than the votaries of planning. What indeed lends credence to the cynics is the palpable fact that development planning has

gradually turned into a window dressing and not an instrument for breaking the barriers to rapid economic growth and social transformation. This is inevitable in a situation where real commitment to economic and social planning is absent and the political authority is so prone to cavalier disregard of the obligations and discipline which are required to make planning effective and meaningful.

"The fact to be reckoned with as the planners embark on their elaborate exercises for drawing up the Seventh Plan, indeed is that development planning and planned development have suffered grievously after political commitment to the plans and their implementation has tended to wilt since the mid sixties."

The issue which is always critical for planning and has been posed by the mid-term review of the Sixth Five Year Plan sharply once again is the mobilisation of resources—financial and material—for realising the essential objectives of the Plans. It is also stressed by planners again and again that in order to mobilise resources, it is necessary to broaden and deepen the tax base and reliance on non-tax devices such as price adjustments, which have lately become very fashionable, will not do. The specialist—planners as distinct from the political component in the plannig body will readily admit in this context that recent fiscal policy trends have run very much counter to effective and efficient resource mobilisation effort for development planning.

The contention which has lately been elevated to the affirmation of an axiomatic truth that taxation in India has touched a saturation point is indeed false and misleading, especially in respect of direct taxation of incomes and wealth which, in strict economic terms as well as equity considerations, must be regarded as the most efficient and non-inflationary method of resource mobilisation for the plan in our socio-economic and political conditions. The moot question is whether this sound line of thinking and approach, partly projected in the mid-term appraisal of the Sixth Plan as well, will receive the necessary attention and a fresh start will be made in this direction.

This cut in taxes!

The unwillingness or inability of the political authority to discharge its commitment towards development planning and subserve its priorities has only been highlighted recently by the decision announced on the same day as the mid-term appraisal of the Sixth Five Year Plan was presented to Parliament to sacrifice revenue to the extent of as much as Rs. 98 crores in a full year by sharp cuts in excise and customs duties on radios, TV sets and other consumer electronics. This order of revenue loss has never been admitted at one go during the era of planning and marks a significant development in itself in fiscal management. Similar cuts in taxes have been made on a more wide ranging basis subsequently. That they point to a glaring divergence in the definition of priorities and their pursuit in practice can easily be seen.

The moves like customs and excise duty reliefs for consumer electronics and the expansion of TV to cover 75 per cent of the population within less than a year in contrast to planned 25 per cent coverage are ill-advised. This will require an additional financial provision of Rs. 200 crores and since there is no such provision in the financial scheme of the Sixth Plan and the priorities laid down in its mid-term appraisal, this will mean a further hefty diversion of resources from planned tasks to schemes outside the plan. The availability of resources for planned priorities will, thus, suffer an additional shrinkage by the tax concessions which have been announced for consumer electronics and other consumer durables.

Not to be missed in this context, of course, is the launching of special schemes for generating employment. These schemes are not very much to write back home about. The financial allocations for these schemes do not make up for even the shortfall in the on-going National Rural Employment Programme and, it can be safely assumed, leakages in their implementation are bound to be there. Benefits that would be derived by the intended beneficiaries would thus be largely illusory as in the case of similar special schemes in the past. What is indeed remarkable in this context is that most of such initiatives the authorities take, in economic policy and planning

"In addition to the restoration of firm political commitment to planning and readiness of the political authority to respect its discipline and obligations, another imperative of meaningful planning for development is a clear policy frame and perspective for the Seventh Five Year Plan."

they are outside the frame of the plan of development.

Restore the commitment!

The fact to be reckoned with as the planners embark on their elaborate exercises for drawing up the Seventh Plan, indeed is that development planning and planned development have suffered grievously after political commitment to the Plans and their implementation has tended to wilt since the mid-sixties. Even though, after the offical Plan holidays of three years at the close of the third five year plan, five year plans were revived, none of the plans have been allowed to run their course and their implementation has been subject to political expediency. Unless political commitment to planning and planned development is restored to and the discipline of planning and obligations that plans cast on the

political authority are observed, the drawing up of the Seventh Plan will only be yet another futile excercise.

Correct this tilt firmly!

In addition to the restoration of firm political commitment to planning and readiness of the political authority to respect its discipline and obligations, another imperative of meaningful planning for development is a clear policy frame and perspective for the Seventh Five Year Plan. A plan, after all, is not a set of input-output tables and financial calculations and projections. These tables and calculations become meaningful in the context of a policy frame and socio-economic objectives it embodies. The tilt in policy has, however, tended to minimise the role of development planning This tilt will have to be corrected firmly and unequivocally if the exercises for the drawing up of the Seventh Plan are not to be a formality and a window-dressing while the economic process runs its own merry course unrestrained and unfettered by the development Plan.

The fact to be reckoned with is that not only fiscal policy but the entire range of administrative and regulatory devices have been sought to be adjusted in a manner which is subversive of meaningful and effective planning to subserve proclaimed socio-economic objectives of the plans. Reliefs from taxes, in particular direct taxes, have been combined with relaxation of prices and distribution controls and reordering of priority ratings for industries which cater to consumption demand of those who have incomes and purchasing power. Production of goods and services which match the effective demand in the market and its potential growth has been encouraged even while mass consumption needs have been relegated to a much lower order of priority.

"The inexorable rise of expenditure on external and internal security and on administrative and maintenance expenditure has still made the Government's budgetary balance precarious. What initiatives and correctives the planners have in view in the face of these developments in their exercises for drawing up the Seventh Plan will be interesting to watch."

This trickle down theory !

There is, of course, nothing fortuitous, therefore, about the novel, non-classical supply-side economics gaining ascendency in official policy and practice. This trend has emerged from a fundamental political constraint which tends to rule out structural changes in economic and social relations on which the established power system rests. The facile and vain idea of "frontal attack on poverty" has been found to be incompatible with stability, much less growth, of the entrenched socio-economic system. Economic policy has been adjusted in order effectively to conform to the vested interest of the "Viable" sections in the system which have a stake in it. The trickle down theory for the benefits of growth to percolate from top downwards in due course has indeed come back to place in official economic policy and management.

"When the question of the mobilisation of the domestic resources is raised, it is to be taken in very wide terms, in terms of material resources and human resources and not just financial resources. This indeed remains the key issue of Indian planning and of the Seventh Plan in particular—the need to overcome the rupee famine for development."

The effective application of the supply-side economics and for effective demand in the market to be satisfied in that context, it is but logical, of course, that consumption which is not backed by purchasing power should be curbed if domestic savings have to be generated and mobilised on an adequate scale for investment and development in the private or public sectors. But there are some tricky problems to be faced in this context. Attempts have been made, for instance, to keep the food subsidy within manageable limits by increasing issue prices of foodgrains from the public distribution system to neutralise the incentive prices offered to the marketable surpluses of foodgrains even while foodgrains has been imported on a sizeable scale. But it has obviously been politically risky to eliminate food subsidy altogether. However, food-for-work programme has been practically wound up and expenditure on social services and mass welfare schemes drastically cut. Public sector investment too has been kept at a modest level and has been directed essentially for the infrastructure to be maintained at a reasonable level of effeciency so that private enterprise, Indian and foreign, has a chance to pick up paces for satisfying effective demand in the market, Indian and foreign. But the inexorable rise of expenditure on external and internal security and on administrative and maintenance expenditure has still made the Government's budgetary balance precarious. What initiatives and correctives the planners have in view in the face of these developments in their exercises for drawing up the Seventh Plan will be interesting to watch.

And the moot question!

The moot question indeed is whether political authority and official planners will have in the drawing up of the Seventh Plan the will and the perspective, after passing through the slippery path of populist posturing and the more debilitating phase of economic liberalisation policies, to revive the spirit of 1956 and the Mahalanobis model which inspired development planning after political independence had been gained. There will, of course, be need even in that case to update the process as the eighties are

not fifties and many changes have occurred in the Indian economy and society—good and bad.

What we can and have to do is that besides going back to the Mahalanobis model in which the prime

"This tilt will have to be corrected firmly and unequivocally if the exercises for the drawing up of the Seventh plan are not to be a formality and a window-dressing while the economic process runs its own merry course unrestrained and unfettered by the development plan."

place was given to the development of the capital goods industry, as to pay greater attention to the development of agriculture. But then also, basically as part of the import substitution effort defined in a narrow sense of the word, new industries were established in the fifties largely under foreign turnkey arrangements with liberal import of capital as well as technology as well as financial credits. Now, there will be need to give further development of industrial sector a greater and wider shape and greater depth in terms of development of domestic industry on a self-sustained and self-reliant basis.

Further, the key to the Mahalanobis model is the mobilisation of the domestic resources for development. Otherwise, Mahalanobis model just cannot work. When the question of the mobilisation of the domestic resources is raised, it is to be taken in very wide terms, in terms of material resources and human resources and not just financial resources. This indeed remains the key issue of Indian planning and of the Seventh Plan in particular the need to overcome the rupee famine for development. ☐

(Continued from page 30)

We cannot stop the computation here, because outlays on other sectors have also their rural component. It is exactly here that urban bias plays its truant role. Governments are not attuned to segregate the rural component from the urban component even for notional purposes

In the case of sectors like energy, industries, minerals, transport and communications, science and technology, and social services, it may not be incorrect to say that no precise and reliable estimates can be made to find out how much of the outlay shown for these sectors is likely to be spent in the rural areas The urban pressures are so strong that the bulk of the expenditure will be in the urban areas On the basis of some rough exercises made in one or two States, it is surmised that on an average not more than 20 per cent of the total outlays of these sectors would be for the rural sector.

Proceeding on these lines and pending confirmation of this broad assessment, the position would be that the rural sector has in all about 40 per cent of the Plan outlay in the Sixth Plan. It is revealing to note that on a similar computation in respect of the previous plans, this share has varied as follows · First Plan 51 per cent; Second Plan 37 per cent, Third Plan 38 per cent; Fourth Plan 35 per cent, Fifth Plan 37 per cent. It can tentatively be concluded that the urban bias has increased since the First Plan and has only been marginally reduced during the Fifth and Sixth Plans, although it could never reach the level of balanced outlay of the First Plan between the rural and urban sectors A mechanical balance in outlays like 50 · 50 has no meaning insofar as the rural-urban spectrum contains more than 75 per cent of the rural economy. While it is not easy to determine an optimal distribution, the needs of the rural sector may require anywhere between 60 to 65 per cent or even more if the rural population is kept in view.

The choice is there !

Given the resource constraints, what are the choices open to us? One is to continue the urban bias providing improved amenities over and above the existing level of amenities in the urban and metropolitan cities merely because the urbanites are organised and they have friends in authority who can steer the decision in their favour The other is to impose obligation on the part of the better off sector (urban sector) to accept the obligation to improve the rural sector and until such time that the basic minimum needs are provided and the rural sector begins to catch up with the urban sector, allocations of resources and of social inputs should be tilted in favour of the rural sector.

If improving the living standards of the masses is the objective, as it emphatically is, of planning in India, the latter has to be preferred. This requires a heroic step of imposing a moratorium at current level on urban facilities so as to release more resources energy and administration for the uplift of the rural economy. If not, the rural-urban cauldron is bound to lead to further inequalities and class conflicts whose dimensions it is difficult to fathom at this stage. ☐

The two challenges we have to face now

E.P.W. da COSTA

Providing a critique in India's planning effort, the author suggests quick action now on (i) bringing population growth down to 1.6 per cent per annum with a more enlightened and vigorous campaign; and (ii) switching over to a new, pragmatic strategy to tackle rural poverty by ensuring different range of jobs for the rural unemployed, in the midst of an annual growth rate of income between 5 to 6 per cent per annum. The existing rural welfare schemes, like the IRD and NREP, argues the author, will never suffice.

THE LAST YEAR OF A PLAN is appropriately time for reflection on past performance, a prelude to new resolutions. The bridge between two Plans is not, in itself, an important component of success or failure but 1955-56, the last year of the First Plan, and 1965-66, the last year of the Third Plan turned out, because of the vagaries of our monsoons, to be decisive years. The First Plan was overfulfilled, that is, the achievements exceeded the targets. The Third Plan signally failed. Now overfulfilment in the Sixth Plan may depend on similar gifts of nature as in 1983-84. This underlines one of the major weaknesses in Indian planning after twentythree years. It has not prevented major fluctuations in output and income from year to year. There is general uncertainty with wide fluctuations notwithstanding a steady trend of about 3.5 per cent which seems to prevail notwithstanding massively increased capital expenditure. There is, anathema to Keynesian economists, no correlation between the rate of growth of investment and the rate of growth of output from 1961 to 1983.

This great paradox !

The great paradox in Indian planning is that it has changed so little of the trend rate of growth in the Indian economy. In the last twenty years, unhappily, it has failed to subdue the natural fluctuations which emanate from what is still a 'gamble in the rains'. Again, while output has been growing at an average rate of about 3.5 per cent, population pressure in terms of numbers has not abated. While we can claim to have lost no ground on per capita income, although another India has been added to our population between 1951 and 1981, we must admit that per capita income growth has fallen from 1 8 per cent between 1951 and 1961 to below one per cent in 1971—1981. Population seems to bar the road to improvement in the standard of living. There has been a failure in growth rate which should have been, for India's population growth, not less than 6 per cent on an average. There has been dismal failure to control population which should have been now rising only at 1.7 per cent per year against 2 1 which seems the actual rate of growth, notwithstanding Government assertions to the contrary. There are still two challenges which India from the Seventh Plan has to face. One is to bring population growth down to 1.6 per cent per year; the other is to attack poverty with employment emerging from a growth rate of income of about 5 5 to 6 per cent per year. As the Seventh Plan takes shape, it is these two challenges which must dominate the framework of our responsibilities largely unfulfilled.

The population explosion

The largest of India's challenges over the next thirty years, and critically in the next ten, is population. Before Independence, strange as it may seem, India had no population problem. In 1901, the population of what we now call the Indian Union was only 238.4 millions. It rose in 1911 to 252.1 millions, fell in 1921 to 251.3 millions and rose again for three decades; but, for the half century 1901 to 1951, the total rise was only 122.7 millions, the figure being 361.1 millions in

1951. Now in a single decade, 1971 to 1981, the rise has been 137.025 million. And there has been in these three decades from 1951 to 1981, a virtual doubling of our population. Contrary to all predictions, the

"There is general uncertainty with wide fluctuations notwithstanding a steady trend of about 3.5 per cent which seems to prevail notwithstanding massively increased capital expenditure. There is, anathema to Keynesian economists, no correlation between the rate of growth of investment and the rate of growth of output from 1961 to 1983."

decadal rate of growth from 1971 to 1981 was 25 per cent, marginally higher than in the previous decade when it was 24.80 per cent This seems like total failure

For the country as a whole, this is a true verdict But there have been three success stories which should not be ignored In three States, Tamil Nadu, Kerala and Orissa, the decadal rate of growth was significantly reduced between 1971 and 1981, absolute rates of population growth were also contained remarkably in the first two · population growth, as against the previous decade, was reduced by about 300,000 in Tamil Nadu and Kerala and by 37,000 in Orissa One would have thought that we should know by now how this was done

We do not yet know, but it now seems obvious that Government policy had very little to do with these successes. And where Government action was fierce and coercive during the Emergency, particularly in

"There has also been unfortunately deceleration in Indian organised Industrial production. No very good explanation can be found for variations from year to year or, indeed, for the sudden drop from the peak in the quinquenium, 1960--65 to the figure of about 4 per cent which has prevailed recently right up to the current year".

1976, there was almost total failure. In the increased population of 137.025 millions, Uttar Pradesh alone contributed 22.52 million, Bihar 13.56 million and Rajasthan 8.50 million

And the lesson!

One lesson can be drawn that is that Government policy did not work over the decade as a whole, and this failure was not the result of indifference Governments cannot make family planning policies work. They can greatly assist when a movement is already under way under voluntary choices by supplying precise knowledge and constant, ever constant, advice and the requested contraceptive devices It is clear now that programmes, not endorsed enthusiastically by the people cannot suffice. More precisely, in an area tointimate the movement must be carried by the people, more than ever now, by Indian women. It is the Indian people, for one reason or another, who have not measured up to their task. If they shou'd fail again in the next thirty years, India is doomed. For we cannot really manage a population of 1350 million in 2012; and this would be the result of continuing the trend of 1971 for 1981 for another thirtyone barren years.

Assessment of failures !

Since the abatement of the rate of population growth is slow and a tedious process, the Seventh Plan will need quickly to turn to assessment of failures of the growth machine which permit of short period correction.

As 1983-84 has already proved, the base for agriculture could well be higher in the Seventh Plan at between 145 and 160 million tonnes of foodgrains at

"There are still two challenges which India from the Seventh Plan has to face. One is to bring population growth down to 1.6 per cent per year; the other is to attack poverty with employment emerging from a growth rate of income of about 5.5 to 6 per cent per year. As the Seventh Plan takes shape, it is these two challenges which must dominate the framework of our responsibilities largely unfulfilled."

an agricultural rate of growth of 2 5 per cent. However the fact must be recorded. Historically, the long term rate of growth in agricultural production has been 2 7 per cent between 1951 and 1978-79, the last peak for the seventies However, if one looks at the decades of the Sixties or the Seventies, agriculture has not risen in either decade by more than 2.1 per cent, the figure being 1 9 per cent in 1961—70 and 2.1 per cent between 1970 and 1979 notwithstanding the fact that these years encompass the massive technological changes described as "the Green Revolution".

Deceleration in organised industry !

There has also been unfortunately deceleration in Indian organised industrial production. No very good explanation can be found for variations from year to year or, indeed, for the sudden drop from the peak in the quin-quenium, 1960—65 to the figure of about 4 per cent which has prevailed recently right up to the current year. This, indeed, is one of the most discouraging elements in the Indian planning operation. Industrial growth, largely on the basis of the remarkable success between 1955 and 1965 was assumed to be the dynamic element in Indian overall growth. This is denied by recent figures which continue to bewilder observers, particularly now when capacity is available in many industries and the infrastructure has greatly improved, particularly in transport. Power is a problem in some parts but, even when it is available, unutilised capacity often ranks between 20 to 25 per cent of installed capacity. It is also seen that the consumer goods industries are lagging.

Growth Pattern of Indian (Organised) Industrial Production : 1951-1983
(General Index with indicated base)

Year	Index 1956—100	Percentage change over the previous year	Year	Index 1960—100	Percentage change over the previous year	Year/period	Index 1970—100	Percentage change over the previous year
			1960	100.0		1970	104.0	
1951	73.4		1961	109.2	9.2	1971	104.4	4.4
1952	75.6	3.0	1962	119.8	9.7	1972	110.6	5.9
1953	77.7	2.8	1963	129.7	8.3	1973	111.1	0.5
1954	83.0	6.8	1964	140.8	8.6	1974	113.2	1.9
1955	91.9	10.7	1965	153.8	9.2	1975	119.2	5.3
1956	100.0	8.8	1966	153.2	(—)0.4	1976	138.7	12.2
1957	104.1	4.1	1967	152.6	(—)0.4	1977	138.3	3.4
1958	107.5	3.3	1968	163.0	6.8	1978	147.7	6.8
1959	116.8	8.7	1969	175.3	7.5	1979	149.5	1.2
1960	130.2	11.5	1970	184.3	5.1	1980	150.6	0.7
						1981	164.6	9.3
						1982	172.0	4.5
						Jan-July 1982	171.4	
						Jan-July 1983(P)	177.9	3.8

(P)—Provisional and subject to revision).

This suggests some complicated problems on the side of demand which are probably connected with steep rises in prices, which have tended to reduce the market, thereby depriving industry of increasing returns. This has perpetuated a high cost economy, which is a major bottleneck to industrial growth because of its limitations on market expansion in a country where agricultural purchasing power is desperately low.

And this problem !

The central problem of lower growth with high expenditure in industry is to be explained by the rise markedly in incremental Capital|Output ratios—after the First Plan.

The Table (I) above shows the amplitude of variations. It will be noted that net Capital|Output ratios from the First Plan have risen from 2.63 to a figure of 6.7 in the Third Plan. Subsequently the ratio seems to have stayed at a figure above 5; except for the Fifth Plan when there was a reduction largely because of two good agricultural years, 1977-78 and 1978-79. We have to view the Capital|Output ratio for industry and the infrastructure separately. Broadly, while full capital investment was taking place, output in most industries was often less than 80 per cent of such full capacities. If, indeed, full capacity utilisation had taken place, the Capital|Output ratio would have fallen from above 5 to 1 to about 4 to 1 which would transform both the growth and the profitability pictures. It might be said that capacities created in many industries indicate wasted investment. We would make sure of full utilisation first before we increase investment. This is, indeed, the challenge of the Seventh Plan. We should not multiply investments. Perhaps we can manage with a rate of investment of 18 per cent of GNP instead of 25 per cent.

Growth for whom ?

Not only has potential not been adequately utilised both in agriculture and industry, the distribution of the little surplus created has been cruelly unequal. The nature of growth raises the question, the most important of all questions in this egalitarian age, as to who are the beneficiaries of growth ? It is certainly not the purpose of the Indian Constitution to generate growth to add further to privilege. Social justice is the predo-

"It might be said that capacities created in many industries indicate wasted investment. We should make sure of full utilisation first before we increase investment. This is, indeed, the challenge of the Seventh Plan. We should not multiply investments. Perhaps we can manage with a rate of investment of 18 per cent of GNP instead of 25 per cent."

Table III

Incremental Capital : Output Ratios (Icor's) in the Indian Economy, Planwise
(Ever since the Commencement of Planning in India)
(At Constant 1970-71 prices)

Plan/Period		Domestic Capital Formation (DCF) (Rs. Crores)		Incremental Domestic Product (Rs. crores)		Incremental Output Ratios (capital ICOR/s)	
		Gross (GDCF) (b)	Net (NDCF) (1b)	Gross (GDP) (2a)	Net Incremental (NDP) (2b)	GDCF/ Incremental GDP 3(a)=(1a) (2a)	NDCF/ Incremental NDP 2b=(1b) (2b)
First plan	1951-56	12,455	8,347	3,334	3,171	3.74	2.[illegible]
Second plan	1956-61	20,005	14,673	4,664	4,391	4.29	3.34
Third plan	1961-66	25,779	18,362	3,489	2,975	7.39	6.17
Annual plan	1966-69	18,572	12,967	3,702	3,443	5.02	3.77
Fourth plan	1969-74	37,548	26,085	5,921	5,425	6.34	4.81
Fifth plan	1974-79	47,722	34,466	10,800	10,243	4.42	3.36
Base year for the Sixth Plan	1979-80	10,814	7,734	(—)2,486	(—)2,566		

Source : National Accounts Statistics, 1970-71 to 1980-81 (February, 1983)
Appendix A-1, p.152
by the Central Statistical Organisation, Department of Statistics, Ministry of Planning, Government of India.

Table II

Distribution of Household, Consumer Expenditure : 1958-59 to 1977-78

(percentages)

Sl. No.	Category	1958-59	1961-62	1965-66	1970-71	1972-73	1977-78
	RURAL						
1.	Bottom 30 per cent	13.1	14.7	15.1	15.4	15.4	15.0
2.	Middle 40 per cent	34.3	33.2	34.3	35.1	33.7	33.1
3.	Top 30 per cent	52.6	52.1	50.6	49.5	50.9	51.9
	URBAN						
1.	Bottom 30 per cent	13.2	12.9	13.6	13.7	13.8	13.6
2.	Middle 40 per cent	31.7	31.4	31.9	31.8	31.9	32.4
3.	Top 30 per cent	55.1	55.7	54.5	54.5	54.3	54.0

Source : Sixth Five Year Plan, 1980-85, Annexure I.II, p. 16.

minant idiom of the late twentieth century. In India it is the central objective of both higher growth and a higher quality of life for the underprivileged. This is a declared objective of the Plans, but it has been conspicuous by the absence of its attainment.

The Table-II here will suffice to show that, at least in terms of household consumer expenditure, India's economic growth has nowhere led to an abatement of inequality. Thus, in this table for the years between 1958-59 and 1977-78 in rural areas, the bottom 30 per cent held 15 per cent of expenditure, practically the same figure as in 1961-62. In urban areas, there is a marginal improvement, but no change from 1965-66. The top 30 per cent may not have improved their percentage of total consumer expenditure, but they have held 52 per cent of such expenditure in rural areas and 54 per cent in urban areas. In fact, they have not shared in this period any portion of their standard of living with the bottom 30 per cent. The middle 40 per cent have marginally improved their position in 1977-78 in urban areas, bu not in rural areas. This is a picture of relative stagnation in Social Justice, more discouraging than the stagnation in real growth rates from 1964-65 to 1982-83. It seems India does not have the right pattern of development for the poor and the underprivileged.

The critical years!

There are broad areas where the Seventh Plan needs to deploy different strategies. Te whole rural sector cries out for facilities terribly curtailed in the last thirty years : more health, much more family planning, more education at the primary and secondary stages particularly for women, more welfare such as electricity for homes even if it is a single light. But the thrust of change must be directed to rural employment, and not casual labour in construction or Food for Work programmes. Rural employment aided by diversion of electrical use from towns to villages and rural industrialisation and a massive input in animal husbandry must show that the Seventh Plan is basically different from the last three plans. All this depends on building new patterns of output with low Capital/Output ratios and moderate per capita wages of, say, Rs. 6000 per capita. This is a far more searching problem than it may appear, for agriculture still barely yields Rs. 4000 as remuneration per person year. The welfare schemes like Integrated Rural Development and NREP will never suffice. We have to find a different range of jobs. The Seventh Plan will be tested here and on population growth. For the rural areas, the next five years are critical. Criticality, as in a state preliminary to an atomic chain reaction, belongs now to the rural scene. There is below the surface an explosive component. We ignore this at our peril. □

The reality !

"Until now we have in general been trying to tackle the problem of poverty, including rural poverty, by directing resources into the existing system and hoping that it will 'trickle down' to the poor . But the major benefit of the new investment stays where it began, with the man who already has, and in proportion to the wealth which he already has.

Rural development, and the diversification of the rural economy which it involves, will not take place without fundamental changes in the present approach to development and to Government activities. These have to be redirected in order to encourage rural production, and to ensure that the surpluses produced in the rural areas are not used for the development of the urban centres in the interest of the economic or political elite."

—President Julius K. Nyerere

(at the World Conference on Agrarian Reform and Rural Development, Rome, July 1979)

(The Challenge—see Cover IV)

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The challenge!

"More serious is the question of the political feasibility of the kind of the Seventh Plan. Are we of the middle and upper classes—with our major lobbies of medium and large farm interests, industrial magnates, intellectuals and men and women of the liberal profession and even trade unions, who represent by and large, the working people who live above the poverty line—are we willing to turn away from a planning system which assures the growth of assets and incomes of the non-poor class, and adopt a plan which will level down levels of living so that by the Eighth Plan we will have no destitutes and poor in the country. This basic question which is beyond the planning frame needs to be faced squarely and answered forthrightly by each of us, of the top four fractiles of society."

—Malcolm S Adiseshiah
(Madras Institute of Development Studies)

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Active biology teaching is the way out !

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Power! my foot

HUMBLE AS IT IS, the bicycle may be ushering in a "power revolution" in the Indian countryside.

Research carried out at the Rural Appropriate Technology Centre at Guindy in Madras has clearly indicated the successful possibility of the power of the human feet, applied through the pedals of a bicycle being used for a number of agricultural and home applications. Even some small industrial machines can be operated by pedal power.

A most remarkable machine is the pedal powered paddy thresher, similar to the Japanese one-man tread type. The threshing is done by a rotating drum, the shaft of which is connected by a V-belt to the pedalling mechanism As the pedals achieve about 70 r.p.m., the drum rotates at 490 r.p.m. The contraption can thresh about 600 kg of paddy in an eight-hour period. Its threshing efficiency proved to be 100 per cent in field trials as against 85 to 90 per cent in hand, foot or animal threshing. A ground-nut decorticator with 97 per cent efficiency, which can decortify 40 kg of pods per hour has also been successfully tested.

PEDAL PUMP

Another innovation is a pedal powered pump. A commercially available piston pump of 25 × 18 mm was activated by pedal power, generated by a modified bicycle. Field tests have shown that upto 1000 litres of water can be lifted by this machine. This pump can be used to get water for household purposes and irrigation on a small scale.

A wood working lathe and wood cutting saw have also been fabricated. The lathe can turn out legs for cots, tables, chairs etc. The saw can give wooden scantlings and planks upto a thickness of 18 mm. A metal working lathe of 3 feet size also has been fabricated. All these have been successfully filed tested.

A wet grinder, with an in-built pedalling system, worked by one person is another innovation. It has a capacity of 1.5 litres and it can grind soaked rice or pulses into paste in 20 minutes.

Since a bicycle is common enough on the Indian countryside and since it can be used with little or no modifications to operate these machines, it is hoped that pedal power will make itself felt on the Indian countryside in a big way. An added advantage is that these require virtually no maintenance. Small and marginal farmers, those seeking self-employment, village artisans, housewives and all those people who either have no direct access to commercial sources of energy or have not the financial capability to go in for energised machines stand to gain a lot by pedal power.

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Our Contributors

E. P. Radhakrishnan—Journalist, New Delhi; **Anita S. Rattan** and **I. S. Rattan**, freelance journalist and biologist respectively, New Delhi; **Dr. K. Puttaswamaiah**—Senior Director, Planning Department, Govt. of Karnataka, Bangalore; **Dr. G. N. Seetharam**—Faculty Member, Institute of Public Enterprise, Hyderabad; **B. Rai** Chief, Plan-breeding Division, Rajendra Agriculture University, Pusa (Bihar); **P. C. Bhinda** and **C. M. Choudhary**—Research Fellows, Department of Economic Administration and Financial Management, Jaipur (Rajasthan); **Mrs. Revathi Balakrishnan**—Associate Professor and Head, Department of Home Management, College of Home Science, Hissar (Haryana); **Ajit Kumar Singh**—Department of Economics, Lucknow University, Lucknow; **Dr. R. K. Mishra**—Professor and Head, Department of Bio-physics, All India Institute of Medical Sciences, New Delhi; **R. P. Rahi**—Literary critic; **D. R. Rangan**—Literary Critics Badli Vidyarthy—Literaryacrition **R.C. Srinivasan**—Senior Research Officer, planning Commission; **C. Srinivasan**—Economic Division, PTI, New Delhi.

Indian economy buoyant in 1983 and prospects for 1984

E. P. RADHAKRISHNAN

The Indian economy which had been sagging since 1979-80 sufficiently recovered in 1983 and now on the safe road towards higher progress. For this remarkable achievement, the author gives full marks to the government for adopting and implementing imaginative and long-vision policies.

THE INDIAN ECONOMY which had been sagging for the last two years has sufficiently recovered in 1983 and there are good prospects of the buoyancy being maintained in the coming year.

An analysis of the performance in various sectors of the economy in 1983 shows that the economy has been pulled out of the ruts and put on proper rails. This has been due to imaginative and purposeful policy measures as well as administration and management. But in the very nature of things in a vast country like India, where with a population of over 700 million and people with different attitudes and cultures and states with different levels of development, it is but natural that the development has not been uniform.

The broad picture is inevitably a mixed one with many bright spots but also having a few dark spots here and there. The presence of a few dark spots really enhances the image even as a dark mole does add to the lustre of a beautiful face. This poses a challenge to the planners and the government, as also an opportunity to work hard and overcome the difficulties and ensure that that the complex economy marches ahead on definitely set goals and aims to ensure prosperity to all. This is a continuing task to which both the people and the government should fully cooperate.

The most signal achievement has been on the food front. The total food production had been steadily rising from 131.9 million tonnes (1978-79) to 133.1 million tonnes (1981-82) and then there had been a decline to 126.6 million tonnes (1982-83) as against a target of 141.5 million tonnes. This had been mainly due to wide-spread drought conditions in many states following failure of monsoon. Subsequently rainfall was very favourable and the target of 142 million tonnes fixed for 1983-84 is likely to be more than fulfilled. In fact the current expectations in the Agriculture Ministry put the figure of production as much as 145 million tonnes.

Main strategy

The main strategy for increased agricultural production is for increased fertiliser consumption and adoption of more and more high yielding varieties by the farmers. To enable larger intake of fertilisers the government had reduced the prices by 7.5 per cent in the hope to improve intake.

Simultaneously because use of fertilisers necessarily implied larger irrigation, the irrigation potential is planned to be added to by 13.7 million hectares during the current sixth five year plan. Financial allocation for this purpose has also been revised upwards to Rs. 12,758 crores. During the first three years of the plan period and additional 7 million hectares of land had bee nirrigated.

No significant increase in output of coarse grains and pulses

The present strategy on the agriculture front does not definitely anticipate any sizeable improvement in the output of coarse grains or pulses. Their production on an annual average ranges between 12 to 13 million tonnes. (pulses)

On the side of commercial crops five major oilseeds are likely to give a yield of 10.5 million tonnes; sugarcane would be around 18.0 million tonnes; cotton 8.50 million bales; and jute and mesta 8.20 million bales.

Fertiliser consumption

Fertiliser consumption in the 1983 rabicrop was 4.15 million tonnes compared to 3.75 million tonnes in the last rabi registering thereby an increase by 10.7 per cent. This rise is likely to continue because of a 7.5 per cent reduction in the prices. The actual expectation is that fertiliser consumption by the end of the current year may be around 15 per cent more than in 1982-83.

Oilseeds

The target of 12.5 million tonnes of oilseed production has been fixed for the year 1983-84. But the trend of output shows a decline since 1981-82 when the total oilseeds produced was 12.07 million tonnes. At present the average annual production is put at 10.5 to 11 million tonnes.

Cotton

Cotton production in India during 1982-83 was 75 lakh bales as compared to 78 lakh bales in the previous year. The government has since fixed an increased floor price for cotton at Rs. 400 per quintal for the average varieties and at Rs. 527 per quintal for long and superior staple varieties. Perhaps this price incentive may improve the total cotton output to about 82 lakh bales but certainly not to 85 lakh bales as anticipated.

Jute

In regard to another major commercial crop, jute, the improved weather conditions promise to be favourable for an increased output. Jute and mesta dipped to 72 lakh bales in 1982-83 from 84 lakh bales in 1981-82. For the current year the target fixed is 82.85 lakh bales; and the present production trends shows that this is likely to be fulfilled more or less.

Industrial front

Another important factor of the economy is industrial production. The index of industrial production in 1982-83 increased by 3.7 per cent only as against a target of 8 per cent and the rise of 8.6 per cent in 1981-82. There has been speedy recovery reported with as much as 7.5 per cent in January 1983. But since then the rate has declined and the average for the last 8 months of the year works out to a little more than 3.6 per cent only.

This slow down in the growth rate has been attributed to the prolonged textile mill strike in Bombay, slackness in demand, power shortage and rise in administrative prices of key inputs like coal, electricity, cement and iron and steel.

The Planning Commission as well as the Industry Ministry have fixed a target of 9 to 10 per cent growth in industrial production for 1983-84. But it is too early to say whether this target will be achieved because past trends do not give an encouraging sign. A month-by-month assessment of the index of industrial production for the years 1981, 1982 and 1983 indicates that while in March 1983 there had been a rise of as much as 7.52 per cent, it has tended to decline since then. The rise was 4.92 per cent in April 1983 and it was only 2.45 per cent in May 1983. The following table gives the indications :

Index of industrial production
(1970=100)
(Figures in brackets show rate of increase)

Month	1981	1982	1983
January . . .	166.5	180.9 (8.65)	182.6 (0.94)
February . . .	161.2	170.3 (5.64)	175.3 (2.94)
March . . .	176.2	184.9 (4.94)	198.8 (7.52)
April . . .	156.5	166.7 (6.52)	174.9 (4.92)
May . . .	156.0	167.0 (7.05)	171.1 (2.45)

The trend of growth in production in 17 major industries, which account for a weight of about 46 per cent, during April to May 1983 shows only a marginal improvement over the growth rate in 1982-83. While these indusuries had an average growth of 3.3 per cent in 1982-83 as compared to 1981-82, they achieved a combined average growth of only 3.9 per cent in April-May 1983.

A little more closer scrutiny of the production trends of some specific items will reveal that in cotton cloth (mill sector) after a decline of 17.8 per cent in 1982-83 it picked up quickly to 28.2 per cent in April-May 1983. Similarly cotton yarn output has also risen considerably by 14.2 per cent in the period April-May 1983 from a decline of 2.8 per cent registered in 1982-83.

In the case of agricultural tractors, after a decline of 24.2 per cent in 1982-83 the trends have been reversed to an increase by 32.7 per cent in April-May 1983.

The latest available figures of index numbers of industrial production shows considerable variations in regard to different groups. Food manufacturing with a weight of 7.74 showed a rise of 37.8 per cent in 1981-82 while in 1982-83 it declined to minus 4.5 per cent. Beverage (weight = 0.69) variations were plus 25.2 per cent (1981-83 and only plus 2.5 per cent in 1982-83.

Other groups weight and variations are as below:

Group	weight	variations 1981-82	1982-83
Tobacco . . .	2.21	15.8%	—5.2%
Textiles . . .	17.43	—17%	16.2
Footwear . . .	0.34	—3.2%	6.1%
Paper . . .	2.24	8.83	9.6
Petroleum products .	1.62	3.1	8.7
non-metallic minerals	3.33	6.0	5.0
basic metals . .	8.84	4.4	—0.4
Metal products . .	2.77	4.5	8.7
Non-electrical machinery . .	5.55	0.8	7.1
Electrical machinery .	5.30	1.2	3.8

Another set of figures available indicate the targets set for their output and their comparative growth rate in 1982 and 1983.

Industry	unit	target (1982-83)	actuals (1982-83)	target (1983-84)	actuals (1983-84)	% growth 1982	1983
Coal	m. tonnes	138.7	137.1	148.92		2.0	2.0
Crude petroleum	-do-	21.40	21.06	26.25		23.5	
Steel ingots	-do-	10.20	8.62	9.58		—6.1	
Saleable steel	-do-	8.04	7.29	7.59		—14.1	
Aluminium	-do-	250.0	208.0	250.0		—14.1	
Copper	-do-	37.0	35.0	40.0		—20.3	
Zinc	-do-	70.0	52.0	66.0		—10.7	
Lead	-do-	15.0	15.0	18.0		—10.1	
Steel castings	-do-	80.0	86.0	90.0		6.1	
Steel forgings	-do-	175.0	150.0	175.0		14.8	
Cement	-do-	26.0	23.5	28.0		6.9	
Caustic soda	Th. tons	696	577.1	110 0		3.9	
Soda ash	-do-	720	620.6	630		27.7	

Power

Power generation which went up by 7.8 per cent during 1982-83 as compared to 1981-82 has again slipped back. The rate of growth of total power generation in the first quarter of 1983-84 was 2.6 per cent and it further increased to 3.1 per cent in April-May 1983. The rate of addition to generating capacity has been rather slow. Compared with the target of 4,032 MW of additional power generation capacity in the first quarter of 1983-84 only 549 MW was created which works out to only 13.6 per cent of the year's target. This slow pace in power generation is a big question mark for the anticipated pick-up in the growth rate of industries on an average of 8 to 10 per cent this year.

Coal

The continued growth in coal production since 1980-81 after nearly five years of stagnation appears once again coming under the shadow of uncertainty. The rate of growth which had been declining from 14.5 per cent in 1980-81 to 9.5 per cent in 1981-82 and 4.8 per cent in 1982-83 has turned negative in April-June this year when it was lower by one per cent than in the same period last year. Despite official claims the production trends of coal are uncertain and the quality of coal raised is not suitable for many sophisticated industries. The Coal Authority of India blames the power sector for decline in coal output.

Steel

Steel is another vital input to set the pace for industrial progress. But unfortunately, after a marginal rise in 1982-83 the production in the six integrated steel plants has declined by 18.2 per cent in April-May this year. Inadequate demand, paucity of power supply, a reduction in the bulk demands by the engineering industry, railways and central electricity authority are cited the main reasons for decline in production. But nobody seems to bother about the real cause since the production pattern of the steel mills is not at all market-oriented resulting in huge accumulation of stocks entailing a daily loss of Rs. one crore for the Steel Authority of India.

Foreign trade

The foreign trade trends indicate positive gains for the country. While growth imports have declined from 4 per cent in 1982-83 to as low as 1.8 per cent in April-June this year, exports had maintained an average growth rate of about 17 per cent for the last two years. This has given the advantage of the export earnings this year to be a little more than Rs. 10,000 crores as against the anticipated target of Rs. 8,500 crores. The adverse trade balance for India is getting gradually reduced and India can also save not less than Rs. 500 crores in precious foreign exchange on account of improvement in indigenous crude production and lessening the dependence on imports of crude. Another significant development in the export effort has been setting up of many 100 per cent export-oriented units. Though much headway has to be made in this regard, the step has been in the right direction.

Monetary and credit developments

A striking feature of the country's economic scene has been the faster rate of increase in liquidity as reflected in the expansion of aggregate monetary resources (M3) and the money supply with the public (M1). M3 increased by 15.37 per cent in 1982-83 (July-June) as compared to 13.25 per cent rise during the same period in 1981-82.

The currency with the public increased by Rs. 2,358 crores in 1982-83 representing an increase of 15.06 per cent compared to a 12.31 per cent rise in 1981-82. This gave rise to an inflationary spiral which had been promptly stopped thanks to the foresight of the government and the Reserve Bank of India which has since increased the Cash Reserve ratio (CRR) in commercial banks from the previous 8 per cent to 10 per cent. At the same time to ensure that genuine credit needs by the industry are met the RBI had recently liberalised the regulations and had also introduced a "Fast Track" credit programme to meet the urgent needs of bank credit by the manufacturing industry. This twin purpose of checking inflation and ensuring enough

(*Continued on page* 15)

Active biology teaching is the way out

ANITA S. RATTAN & I. S. RATTAN

The incompatible co-existence of science and superstitions in our daily life, say the authors, is largely due to our apparent unconcern towards understanding the true meaning and value of teaching 'active' Biology. Biology, the science of life, as we teach our students in schools and colleges today, they assert, is socially and politically indifferent, and hence ineffective. If inculcating scientific temper in society is important to us, the change over to active teaching of Biology is imperative.

SCIENCE EDUCATION in any society should help remove superstitions and the absolute authority of religion. This is because science by its very nature is in contradiction with such beliefs. However, in India, which is the third biggest source of scientific manpower, this effect of science is little realized. Our scientists, in their professional and private lives, lack exactly what they should be most equipped with, that is, a scientific temper. They turn to palmistry and horoscopes to solve the problems of life. They not only follow every kind of superstition and religious ritual in their daily lives, but also try to justify or hide them intellectually.

In our country, satellites are sent into space after consulting saints and astrologers, women are suppressed with some weird notion of male superiority, class, caste and social inequalities are defended on the plea of great Indian heritage and tradition. Religious dogmas and superstitions prevail throughout our society, but their existence among our scientists is most paradoxical. We expect our scientists to behave scientifically and show scientific temper, which means that they should be rational, critical, non-superstitious and humane. Otherwise, those who learn from them have nothing to look up to.

The apparent dichotomy!

Although this problem of co-existence of science and irrationality should be investigated in all spheres of science, in this article we intend to analyse the situation in relation to biology only. This is because we think, that among all branches of science, biology is directly giving us knowledge about life. We are told in schools that biology is the study of life. Or, better still, it is the science of life. Then, does this mean that the knowledge of biology can help us make our lives more rational, scientific and humane? Our contention is : yes, the study of biology, even in its present institutionalised form, can help us build a rational and non-superstitious attitude towards life. In actual experience, however, we find that this is exactly what has not happened even to the lives of those who have pursued biology to the extent of being known as the biologists.

Reasons for this dichotomy between profession and practice and an apparent failure of biology in promoting scientific temper among our students of biology are many. The roots of this problem lie in our approach towards the teaching of biology, which fails to generate awareness about life. Our social, cultural, economic and political power structures are the governing principles behind our education system. Any suggested change in isolation can never be fully effective. However, within the present set-up there is a lot of margin for improvement. We think that a new approach in biology teaching is needed to help make, to begin with, biology students more scientific.

This passive biology!

The teaching of biology in India was introduced by the British. The view that the objective character of science requires the teaching of biological facts also to be neutral and indifferent to social issues is a logical fallacy which still persists with us. This view, perhaps, well suited the imperialists who did not want their subjects to think critically and question various kinds of exploitation and discrimination. They wanted Indians to act more as brainless technicians for them than

become original thinkers Unfortunately, we do not see much change even in free India. Such generally passive approach throughout, in a developing country like ours, can only be useful to modern imperialists who need well-trained scientific labour to promote their ideology. The students of 'passive biology' have developed two mutually incompatible value patterns of life. One part of their life, which secures their bread, is served by biology, while the other parts which concerns their social interaction is directed by religion, superstition and tradition. One of the reasons behind this dichotomy is continuing passive and indifferent teaching. Although it is "biology" which is introduced to students in schools and colleges, in practice biology as an interdisciplinary subject to teach life processes, is taught only at four or five universities in our country. Usually there are separate departments of botany and zoology dealing with plants and animals respectively. But if we want to teach biology as the subject which can make us aware to live a better human life, the separation of botany and zoology has little value. There are a few universities where integrated courses on life sciences or biology were started. (It is a matter of grave concern that some of those modern departments are trying to revert to the plant and animal bifurcation either due to the hostile reception which their students got from the traditionalist universities or due to the utter laziness and vested interests of traditional teachers governing these modern departments) In both these places the teaching of biology has remained silent and indifferent to social issues. It is perhaps naively assumed that once biological facts are taught these will automatically generate an awareness among students regarding the social implications of these facts.

These myths, taboos & ignorance

Let us take some very simple examples to explain what we mean by passive biology. These examples show how many biological facts which could help remove social injustice, taboos and religious dogmas have either been ignored or neutralized. Let us analyse the teaching of the process of sex-determination among human beings. Biology books tell that the sex of a child is primarily determined by either of the two sex chromosomes out of a total of 46 per cent in all human cells. Female cells have two X chromosomes (XX), and male cells have one X and one Y (XY) chromosomes. The sex of the future baby is decided at the time of fertilization when after a process of reductive cell division (meiosis), 23 chromosomes in the egg from the mother meet 23 chromosomes in the sperm from the father to produce a normal human zygote with 46 chromosomes. It is, therefore, clear that the female set of chromosomes (XX) will always have the female producing X chromosome only, whereas the male set can either have an X or a male producing Y chromosome in the sperm fertilizing the egg. Depending upon a purely chance event whether a male or a female chromosome from the father enters the egg, the baby will be a boy or a girl. The biology teaching at present, which we call passive biology, stops here.

The active teaching of biology will take us to the next step, which is socially most important. In our society the preference given to a new-born male child over a female has been very apparent. Innumerable incidents can be quoted where the mother had to suffer physically, emotionally and socially in case no boy had been born in the family. Such mothers had to face tortures ranging from an imposed divorce to death. They still do. The excuse behind such actions has been the notion that the mother is somehow responsible in determining the sex of the child. Biologically this is not true. If any body has the so-called responsibility, it is the father whose sperms carry the information. But our indifferent, inhuman and passive biology remains silent about such an important social issue, perhaps it assumes that the social implications of this biological fact are too obvious to talk about. This is a mistake. Active biology, on the other hand, will have to talk about these implications and strongly condemn the evil practices. This can certainly help change our attitudes.

Active biology explodes myths

Numerous similar examples highlighting the role which active biology can play in the issues of social injustice and associated ideology can be mentioned. Male-female and racial equality, cause and cure of diseases, birth-defects and syndromes, origin and evolution of life, non-existence of any supernatural forces governing our lives are some of the issues which need to be actively talked about in the classrooms instead of passively teaching the biological facts related to them.

However, let us take another example where the myths, taboos and ignorance prevailing in our society can be questioned through an active approach to biology teaching. Our religion, the sex quacks and even our media propagate a view which is scientifically a nonsense. They tell us that the male sex fluid (semen or *virya*) is the most precious thing produced through a cumbersome process of large quantities of food first being converted into a drop of blood, and many litres of this blood making a drop of *virya*. What imagination and what a lie! Biological facts, on the other hand, tell us in great detail about all the steps involved in this process, that there is almost a non-stop production of sperms in males after puberty. However, after describing the process the passive biology goes dumb when it comes to talking about the implications of these facts in our lives.

Our religious texts and many of our elders terrorize young boys reaching puberty by telling them that any slackness on their part in preserving this 'mythological' fluid of manhood will result in various deformations, mental retardation and even abnormal children later on. All this nonsense gives rise to taboos and a guilt complex among youngsters undergoing puberty and having the first experience of their natural sexuality. The teaching of biology must actively discuss these issues and destroy terrorizing myths and taboos in the minds of young people.

And the problem

Scientific facts are available against all kinds of superstitions, rituals and inhuman practices prevalent

(*Continued on page* 15)

Content, not the size, please !

K. PUTTASWAMAIAH

We are in the penultimate year of the Sixth Plan and this is the crucial stage to think of new strategies for planned development. The author, in this article, has attempted to highlight the new strategy that may take into consideration the integration of various programmes for the uplift of the poor.

INDIA has completed more than three decades of planned development and we are on the threshold of the Seventh Five Year Plan. The purpose of planning has been to raise the living standards of the people and to provide new opportunities. The objectives have undergone changes from plan to plan. The basic objectives have been growth, modernisation, self-reliance and social justice. During the planned era of development of the economy, the rate of growth has improved substantially. There have been structural changes in the fields of agriculture and industry over these years. Technological advancement has taken place. In regard to social justice, stress has been laid on improving the living standards of the poorest groups and reduction in the inequalities in asset distribution. A number of measures were initiated towards alleviation of poverty.

The Sixth Plan has been formulated by taking into consideration the progress achieved over the early years of development. Before this plan was launched, there were also a number of unfavourable factors and inflationary trends which affected the economy. There was also a set back in some of the sectors like coal, power, steel and the steep rise in the price of petroleum products affected the economy. The Sixth Plan commenced in such circumstances. The objectives of the Sixth Plan were formulated in the light of these considerations. The major objectives of this plan are to step up the rate of growth of the economy, the promotion of efficiency in the use of resources and improved productivity; progressive reduction in the incidence of poverty and unemployment; emphasis on conservation and efficiency in resource use, effective implementation of minimum needs programme; reduction in inequalities of income and wealth, a progressive reduction in regional inequalities in the pace of development and in the diffusion of technological benefits, controlling growth of population, protection and improvement of ecological and environmental assets and promoting the active involvement of all sections of the people in the process of development through appropriate education, communication and institutional strategies.

Mid-term appraisal

The mid-term appraisal of the Sixth Plan has been done by the Planning Commission recently. The mid-term appraisal of the plan has shown that the "targets will be fulfilled in full or adequate measure in a number of areas including many in the sectors of agriculture and industry, some special efforts would yield improved performance in the production of foodgrains, as also in the infrastructural sectors. The appraisal deals with some of the measures necessary in this regard, so that a firm basis is laid for the continued growth of the economy to the end of the plan period, as well as in the post-plan period." It is clear that the objectives of the plan have not been fully realised in all fields.

We are in the penultimate year of the Sixth Plan and this is the crucial stage to think of new strategies for planned development. An attempt is made in this article to highlight how the new strategy may take into consideration the integration of various programmes for the uplift of the poor.

New strategies

The rate of growth of the economy during the years 1980-81 and 1981-82 was 6.5 per cent. During

the year 1982-83, there was a set back in the agriculture front due to droughts and floods in different parts of the country. There was a decline in the growth rate. The additional resource mobilisation is likely to exceed the targets set. The public sector investment has exceeded the plan target.

In the field of irrigation, if additional investment is made, the additional potential of one million hectares could be created. In order to increase the irrigation potential, there is the need to step up investment in this sector. Similarly, the investment in power sector is to be enhanced. Priority is to be given for early completion of the on-going projects. The resource contraints should not further delay the completion of the on-going projects.

It is expected that the exports would increase at an average annual rate of 7 per cent in the last two years of the plan period. However, the total increase would be only 4 per cent during the plan period. The actual growth of imports during this period would be only 6 per cent. Inspite of the unfavourable economic conditions, there has been a significant improvement in the balance of payments. As a result of this, there would not be any foreign exchange constraint during the rest of the plan period.

The details of public sector outlay according to plan heads is given in Table-1.

The foodgrains production according to mid-term estimates is expected to reach 148 million tonnes as against the target of 154 million tonnes. The additional irrigation potential estimated was 11 45 million hectares as against the plan target of 13.54 million hectares. Power generation estimates during mid-term appraisal was 170 billion KWH as against the Sixth Plan target of 191 billion KWH. 8 lakh wells will be dug by 1983-84 as against the plan target of 12 lakh wells. The energisation of pumpsets will be 13 80 lakhs as against the plan target of 25 00 lakhs.

TABLE—1

PUBLIC SECTOR OUTLAY ACCORDING TO PLAN HEADS

(Rs in Crores at current prices)

	1980-81 Actual	1981-82 Actual	1982-83*	1983-84 Plan Outlay	1980-84	1980-85 Plan (at 1979-80 prices)	Percentage expenditure 1980-84 1980-85 Plan
	1	2	3	4	5	6	7
1 Agriculture	981 54	1129 43	1248 79	1397 73	4757 49	5695 07	83 54
2 Rural Development	1040 19	1100 85	1234 41	1278 73	4654 18	5363 73	86 77
3 Special Area Programme	206 41	258 47	320 64	362 50	1148 02	1480 00	77 57
4 Irrigation and Flood Control	1777 30	1948 44	2144 01	2464 06	8333 81	12160.03	68 53
5 Energy	3828 01	5064 86	6737 00	8323 36	23953 23	26535 44	90 27
(i) Power	2656 84	3182 24	3821 38	4532 19	14192 65	19265 44	73 67
(ii) New & Renewable sources of energy	4 26	13 91	19 80	30 00	67 97	100 00	67 97
(iii) Petroleum	735 17	1204 79	2023 66	2815 00	6778 62	4300 00	157 64
(iv) Coal	431 74	663 92	872 16	946 17	2913 99	2870 00	101 53
6 Industry & Minerals	2191 45	2777 93	3021 51	3492 51	11486 40	15017 57	76.49
(i) Village & Small Scale Industry	273 16	322 91	324 51	411 18	1331 76	1780 45	74 80
(ii) Large & Medium Industry	1921 29	2455 02**	2697 00**	3081 33**	10154 64**	13237 12	76 71
7 Transport	2162 96	2583 12	2727 96	3033 57	10507 61	12411 97	84 66
(i) Railways	973 00	1210 00	1331 95	1342 25	4857 20	5100 00	95.24
(ii) Road and Road Transport	829 46	934 68	871 76	1004 21	3640 11	4634 51	78 54
(iii) Other transport	360 50	438 44	524 25	687 11	2010 30	2677.46	75 08
8 Communications	356 75	576 13	607 87	704 49	2245 24	3134 26	71 64
9 Science & Technology	97 40	148 26	215 89	238 71	700.26	865.20	80 91
10 Social Services	2074 65	2487 15	2953 21	3682 10	11197.11	14035.26	79.78
(i) Education	339 54	435 64	537 55	686 44	1999 17	2523 74	79 21
(ii) Health & Family Planning	111 52	530 43	682 99	798 02	2422 96	2831.05	85 55
(iii) Housing & Urban Development	477 34	488 13	538 84	650 83	2155.14	2488.40	86 61
(iv) Other Social Services	846 25	1032 95	1193 83	1546 81	4619 84	6192 07	74.61
11 Others	112 78	136 21	145 36	202 56	596 91	801 47	74.48
12 Special Incentives				300 00	300 00		
13 Total	14832 41	18210 85	21356 65	25480.32	79880 26	97500 00	81.9
14 Central Assistance against Natural calamities	191 00	162 00	372 00		725 00		

Note *Figures for central plan 1982-83 are based on R E, 1982-83 and anticipated expenditure for States and U.Ts. a circulated by the State Plans Division

**Includes outlay/expenditure for Export-Import Bank of India and Share capital to Nationalised Banks

SOURCE—Sixth Five Year Plan 1980-85, Mid-Term Appraisal, Government of India, Planning Commission, 1983, PP. 38-3

Under MNP, 0.98 lakh problem villages were covered till the end of 1982-83 as against the plan target of 2.31 lakh problem villages. 0.21 lakh villages were electrified as against the target of 0.46 lakh. 0.24 lakh house sites were provided to landless as against the target of 0.68 lakh and financial assistance was provided for construction of 0.16 lakh houses as against the target of 0.36 lakh. Under health programme, as against the target of establishment of 0.40 lakhs sub-centres, 0.16 lakh subcentres have been established. 560 additional Primary Health Centres have been established against target of 600.

As against the public sector outlay of Rs. 97500.00 crores during the plan period, the expenditure will be Rs. 79,880.26 crores till the end of 1983-84 which accounts for 81.93 per cent of the total. In regard to petroleum and coal, the expenditure during the four year period will be more than 100 per cent.

Special efforts essential

Even though the plan targets will be fulfilled to a larger extent, some special efforts have to be made to improve the economy. Importance has also been given to the programmes which help the weaker sections of the society. During the sixth plan, stress has been laid on strengthening the socio-economic infrastructure of development in the rural areas, alleviating rural poverty and reducing regional disparities. The main strategy for accelerated rural development is increasing production and productivity in agriculture and allied sectors, improving the living conditions of the vulnerable sections of the rural population, skill formation, providing adequate credit support, strengthening the marketing infrastructure, providing additional employment opportunities, and provision of essential minimum needs. The basic question is that whether these programmes have helped the rural poor ? The main objective was that multiplicity of programmes for the rural poor operated through a multiplicity of agencies should be ended and be replaced by one single integrated programme operative throughout the country. With this objective, the Integrated Rural Development Programme was launched. Of the 350 million people below the poverty line in the country, around 300 million are in the rural areas. These consists largely of the landless labourers, small and marginal farmers, and rural artisans. The programme has been conceived essentially as an anti-poverty programme. But there has not been proper coherence in our approach. During the first three years of the plan period as against the target of coverage of 9 million beneficiaries, 8.9 million beneficiaries have been covered. The mid-term appraisal reveals that nearly 30 per cent of the benefits have been extended to the small and the marginal farmers. It also points out that the administrative infrastructure is not adequate and special efforts are needed to involve the people's representatives at the block and village level for proper implementation of the programme.

Employment guarantee for rural landless

With a view to provide employment opportunities to the ruralpoor, Rural Landless Employment Guarantee Programme has been initiated recently. The main objective of the programme is to improve and expand employment opportunities for rural landless with a view to providing guarantee of employment to at least one member of every landless labour household upto one hundred days in a year and creation of durable assets for strengthening the rural infrastructure which will lead to rapid growth of rural economy. The programmes include construction of rural link roads, construction|renovation of field channels, land development and reclamation of waste land or degraded land with emphasis on ecological improvement, social forestry, soil and water conservation works including improvements to minor irrigation works, renovation of improved community works such as irrigation tanks, land shaping, drainage, field channels etc. Priority will be given to such type of works which help the weaker sections of the community. The priority will also be given to the works which are required to be taken up in areas which are backward and have predominant population of unemployed landless labourers belonging to scheduled castes and scheduled tribes, works in those parts where complaints are received about concealed bonded labourers, works in areas identified as low wage pockets and works benefitting women.

The programmes to be taken up should have a project approach. Apart from generating the employment, the project should aim at creation of durable assets for strengthening the rural infrastructure that would lead to rapid growth of rural economy.

Appraisal of Karnataka Plan

The mid-term appraisal of the Sixth Plan of Karnataka revealed that the additional requirement will be of the order of Rs. 608.43 crores. The total outlay for the Sixth Plan is Rs. 2265.00 crores, excluding Rs. 135.00 crores for irrigation projects pending approval, and according to the mid-term appraisal, it would be Rs. 2873.43 crores. The additional requirement is to achieve the plan targets and also for early completion of the on-going projects. The financial details are given in Table-2.

Under agriculture and allied sectors, the additional allocation is for dry land agriculture, minor irrigation, command area development, dairy development, forestry and for special programmes of rural development. In regard to co-operation sector, the requirement is for establishment of new spinning mills and co-operative sugar factories. Under irrigation and power sector, priority will be given for early completion of the on going projects. For the implementation of World Bank assisted Sericulture project and for programmes of village and small industries, additional allocation is necessary. In regard to transport and communications, the additional requirement is for completion of Karwar port and to achieve the physical targets in respect of communication programme. Regarding social and community services, priority will be given for general education, medical, public health and sanitation, sewerage and water supply, housing and welfare of scheduled castes and scheduled tribes. The targets fixed will be fulfilled in full or in an adequate measure and efforts will be made to achieve the targets fully.

TABLE—2

Mid-term Review of Sixth Plan of Karnataka—Financial details.

(Rs. in lakhs)

Head of Development	Outlay approved 1980-85	1980-81 Actuals	1981-82 R E.	1982-83 B.E.	Outlay required for 1983-85			
					On schemes included in the plan	On accelerated activities	On schemes not included in the plan	Total
1	2	3	4	5	6	7	8	9
I. Agriculrure and Allied Services	37151.00	7244.74	7616 12	7351.23	16074.67	8442 23	352 00	47080.99
II. Co-operation	5000.00	1269.00	1042.00	975.00	1714.00	970 00	..	5970.00
III. Irrigation, Flood control and Power	104370 00	17614.50	20020.00	22323 00	44572 50	13530 00		118060.00
IV. Industry and Minerals	16268 00	3787 15	3950 00	3667 77	4862 58	18187 55	583 77	35039 32
V. Transport and Communications	14521.00	2823 15	2957 23	3429 00	5311.62	2842.54	..	17363.54
VI. Social and Community Services	48840 00	6450 67	8459 39	9669.00	26618 84	6772.29	5297 22	63293.41
VII. Economic Services	240.00	29.82	40.81	73 00	96.37	60 00	..	300 00
VIII General Services	110 00	5.32	12 00	12 00	80 68	126 00	.	236.00
TOTAL	226500 00	39224 35	44098 05	47500 00	99351.26	50936 61	6232.99	287343.26

Content, not the size

The size of the plan is not that important but the content of the programmes which help for the growth of the economy are the important factors. The programmes which have been taken up help the uplift of the rural poor. Solution for the problems of poverty, under-employment and unemployment can only be found within the framework of a rapidly expanding economy. In the successive plan periods the major objectives have been growth, removal of poverty and achievement of self-reliance. This objective continues to be there in the Seventh Plan also. Importance will also be given for the special component plan for scheduled castes and for tribal sub-plan. In addition, benefits will also accrue to the scheduled castes and scheduled tribes people from the various sectoral programmes. Steps will be taken to reduce the regional disparities. Programmes which directly benefit the poor will be given priority. Importance will also be given in the extension and delivery services.

In the past, steps have been taken to achieve social justice. This means improving the living conditions of the poor and reduction in inequalities in asset distribution. To achieve these objectives, programmes were initiated to have a direct attack on poverty. Still much more has to be done on this front, as the impact so far is very limited. What is required is more effective implementation of these programmes. Credit is to be provided to the vulnerable sections of the rural population on a larger scale to enable them to join the main stream of economic activity.

Top priority for poverty reduction

Progress has been made in the sectors of agriculture, industry, science and technology, health and education and infrastructure development during the planned development of the economy. For these, priorities, programmes and targets must be set out after a careful evaluation of needs, constraints and potentialities. The changes have to be effected due to the fact that in spite of the efforts made so far, it has not been possible to make a major dent on poverty on account of the inadequate rate of growth of the economy, uneven distribution of income and consumption as well as high rate of growth of population. Therefore, the reduction in poverty should receive the highest priority in the new strategy. Employment generation programmes have to be selected. There is a need for formulation of comprehensive plans on defined area basis pooling all the resources available under various programmes. The Rural Landless Employment Gurantee Programme, which has been started recently, lays stress on providing employment to the unemployed and creation of assets. The National Rural Employment Programme which is already on hand has almost the same objectives. The Drought Prone Areas Programme which is in operation in 511 blocks in the country has the objectives of reducing the intensity of droughts and restoration of ecological balance. This programme is, therefore, a purely infrastructure programme. There is need to establish proper linkage to provide the necessary infrastructure base to the Integrated Rural Development Programme which is a beneficiary one. Comprehensive planning, pooling resources from all these programmes, thus becomes a necessary endeavour.

Minimum Needs Programme is an extremely important scheme aimed at improving the quality of life and providing infrastructural support needed for alleviation of poverty and providing amenities to the rural poor. The thrust of these programmes is towards identifying and intensifying the infrastructural investment necessary for rural development. The scope of the MNP is to be enhanced by taking up certain

Continued on Page 32

Major share for working class in the national cake

G. N. SEETHARAM

Continuing our new series on some trends in public sector in India and abroad, we present here the scene in Italy as depicted by the author. According to him, one of the peculiarities of the Italian situation is that the private sector is counterposed by a very strong organised working Movement and Italian Chambers of Commerce constantly complain of a "very high" share of the organised working class in the national cake.

THE PAST FEW YEARS have seen a renaissance of neo-classical economics in many western countries and Italy is no exception. The anti-Keynesian "counter-revolution" is in full swing. "Supply-side economics" and "monetarism" are in fashion. Both together and separately they represent a conservative backlash and have been influencing the formation of economic policy very strongly in the 70s and the 80s. Whereas conservative philosophy in its classical form laid emphasis on free market regulation of economic phenomena present day "neoliberals" (the term 'Neo-liberals' and 'conservatives' are used interchangeably) realise the near irreversibility of an active role for the State in the economy but demand a change in the postulates of guiding state intervention in the economy. They shift the emphasis of the State from one of guiding a structural change in the economy to one of stimulating the competitiveness of the private sector. This "renaissance" of anti-public sector moods is partly a reaction to the crisis of the entire paraphernalia of economic policy which showed its inability to tackle the serious socio-economic problems facing Italy. Some of these questions are regional like the backwardness of the south in relation to northern Italy; some structural like the agrarian situation and working class unrest. An active role in the conservative consolidation is being played by leading Italian economic experts.

Oxygen-tent capitalism

In contradistinction to the United States the Italian public sector is large and cannot be wished away in the name of "freedom of choice". About a fifth of the nation's labour force is employed in the public sector, about two-fifths of the GNP is redistributed through the government budget and according to estimates between one-third to two-fifth of gross investment is directed by the state. Really Italian capitalism is what Keyenes once termed oxygen-tent capitalism. In view of this Italian "neo-liberals" like J. Massoki argue for a more complex relationship to the public sector than the traditional liberal argument that everything public must be necessarily bad and the government must be nothing more than a night watchman. Italian neo-liberals backed by the entrepreneurial circles seek a shift of government policy from the "body economic" to solving social problems. As expressed in the "British Journal of Industrial relations" (1979 vol. No. 2 p. 264) this postulate is formulated thus "Economic management must be independent of politics and so-called social responsibility of enterprises so as to facilitate the effective functioning of the economic mechanism by way of choice and location of resources and in this they should not put before themselves any aims from the field of general development".

The accent according to the neo-liberals must be shifted towards the enterprise and its rationalisation. This job must be left to the private sector. State regulation has led to the limitation of freedom of action for the private sector and what is needed is the

re-introduction of the market principle which in turn demands a strict demarcation of the competence between the government (or the public sector in the wider sense of the term and the private sector. These dialogues would like a "Privatisation of profits and nationalisation of losses". This would be low profit yielding infrastructure enterprises to remain within the competence of the public sector while the more profitable public sector enterprises must gradually on the basis of close inter-action with the private sector preferably "coalesce" with it

Private sector Italian

One of the peculiarities of the Italian situation is that the private sector is counterposed by a very strong organised working class movement and chambers of commerce in Italy constantly complain of a "very high" share of the organised working class in the national cake. According to these circles the single monopoly in Italy is the "monopoly on the labour market" which according to them had led to a total subordination of the market process of the dictates of the unions Italy has become a "model of development with a high intensity of social conflicts". They are accusing the organised labour movement of having created their own "Gosplan" and of interfering in the planning process even at the enterprise level. According to their line of thinking while participation of workers in wage settlements, working conditions etc. may be tolerable their active participation in the defining investment plans and perspective plans is thought of as totally unacceptable Neo-liberals would like the Italian government to take an active stand against what they term "the dictatorship of the proletariat" at the enterprise level. They argue that Italian business is fighting a two-front "war" on the one hand with the vast bureaucratic apparatus of the government and the public sector and on the other hand with the organised working class. Caught in what they call the "scissors crisis" they argue that they have no room for manouvering. This, according to eminent Italian neo-liberal G Carli, is the reason for the present-day difficulties of the Italian economy. The post-war "Italian miracle" according to Carli was fathered by the Italian enterpreneurial classes and the loss of their leading positon in society has led to the crisis.

The 'black market'

The "black market" in Italy has of late been showing unusual dynamism forming almost 10 per cent of the GNP and according to some Italian economists a part of Italian capitalism is taking refuge by 'fleeing' to the unorganised black market where government regulations regarding taxes, wage levels, social security etc do not apply and the trade unions are at arms length. The essence of neo-liberal thinking is expressed in the OECD documents "Towards full employment and price stability" (1977).

According to this document the main concern of the western nations (at least most of them) must not be stimulation of economic growth and employment but a change in economic policy towards a struggle with inflation. The cause for inflation is seen mainly in increasing wages. Inflation should be attacked on two fronts one by cutting money supply by cutting down on social programmes and two freezing wages. An analysis of the tendencies in Italian government policies at the beginning of the 80s shows that these recommendations are being given utterence. More and more representatives of italian neo-liberalism are moving from the universities to the government apparatus. Several political parties in Italy including the prominent Christian-Democratic Party have adopted platforms close to neo-liberals Italian socialists seem to be moving in the same direction. The main 'think tanks' of neo-liberals is the Sacred Heart Catholic University in Milan, University of Economic Sciences in Milan and the economic departments of a number of universities.

Controversial system of planning

The system of planning in Italy is now under controversy. Neo-liberals would prefer putting an end to a single national plan and replace it by sectoral plans. The programmes worked out at the end of the 70s and the beginning of the 80s in Italy have taken a neo-liberal trend. "Supply-side economics" with its emphasis on fighting inflation has been given priority. The competitiveness of Italian industry in the world markets according to these programmes depend on whether Italy will be able to control its two-digit inflation. Pressure is being put on trade unions and the working class. Conservative circles would like to administer the Italian working class the type of "shock therapy" which Reagan and Thatcher are administering to the working class in their countries but in Italy to put it mildly the working class is a tougher customer. The rate of profit in Italian industry is falling and a number of large italian firms were saved from bankruptcy by the government during the 1979 crisis. Banks have turned their credits into equity and have become co-owners of the largest Italian concerns. The government is helping these consortium of banks. But according to the neo-liberals this situation would not have arisen at all if the government had created conditions for the effective functioning of the private sector. A lot of money is going into speculative investment since government is forced to issue bonds to cover up its loans. In fact this process has become irreversible. But the government was also forced to admit that fiscal policy in Italy was not acting as a stabilising instrument but on the other hand depended on the spontaneous evolution of the economic cycle and had often become a destabilising factor.

The connecting thread

Between the fall in the rate of profit of capitalist enterprises, increase in public debt, deficit budgets and strengthening of inflation there obviously is a connecting thread. But the point is that the commercial classes would prefer the government to close down its social welfare measures which are mainly catering to the downtrodden while keeping up government expenditure on science, infrastructure and incentives for investment in backward regions.

According to them the very concept of social security demoralises the spirit of the individual and has a tendency to make the Italian working class 'lazy'. The "theoretical basis" for a frontal attack on the downtrodden of the Italian society is that the so-called multiplier coefficient of social expenditure is approximately two times less than that of investment expenditure. Also funds to local organs of power which are controlled by left parties are being blocked.

The consequence of this turn about in economic policy will lead to conflict situations in Italian society. Economic policy of the Italian government can be expected to a deepening of social conflict and the "model with a high degree of social conflict" may find that the level of conflict has reached a higher intensity than it can handle. But one thing is clear Italian neo-liberalism is seeing its heyday in theory and practice though at the cost of increased social polarisation which may one day lead to a questioning of the "model" itself. An analysis of the possible "scenarios" that the questioning of the model may take is beyond the scope of his article. ☐

(Continued from page 6)

credit to the industry has already started yielding the desired results. For no major industry is now complaining of non-availability of essentially genuine bank credit and industrial production has also started looking up.

Selected Economic Indicators Monetary indicators (In crores)

	Week ended Friday/Saturday		
	Mar. 26(82)	Nov. 5(82)	Nov 11 (83)
1. Aggregate monetary resources (M3)	62,488	68,387	
2 Net Bank credit to Government	30,911	35,442	
3 Bank credit to commercial sector	43,047	45,851	
4. Foreign assets of Reserve Bank of India . . .	3,271	3,480	5,170
Wholesale price index (1970-71=100)			
All commodities .	277.1	289 6	317 0
Primary articles	260 7	273 5	
Food articles . .	234.9	246 3	..
non-food articles .	232.6	249.9	.
Fuel Power Light & Lubricants . .	437.7	464.8	
Manufactured products . .	263.5	274.6	.
Food products .. .	247 6	267.8	..

Inflation

The rate of inflation calculated on a point to point basis in terms of wholesale prices index as on November 5, 1983 was 9.5 per cent as against 2.8 per cent on the week ended November 6, 1982. The level of index was 289.6 (1982-83) and 317.1 (1983-84).

The foregoing analysis of certain important economic indicators reveals that although the economy is resilient there are still many imponderable factors which have to be tackled as and when they show their impact. For instance, food position is now comfortable and should cause no anxiety for the present. But extreme care has to be taken in keeping up the growth rate of agriculture at not less than 4 per cent per annum at least to provide a cushion against unforeseen contingencies and keeping in view the rate of growth of population.

Industrial side needs special attention both in regard to conscious infrastructural facilities and pragmatic and market-oriented production patterns.

Scrupulous care and constant vigil has to be kept on credit management so that genuine credit needs of industry are met and at the same time inflation is kept under check.

Since India's foreign exchange reserves have shown a rising trend, thanks to the higher pace of inflow of remittances from non-resident Indians abroad, India need not be extremely concerned over the obligation to repay the large sum of IMF loan of Rs. 5,200 crores taken two years ago. India can manage this and granting that the tempo of development is kept up as at present and with full public cooperation the annual average growth rate is achieved at 6.5 per cent as now expected, the economy of India is now in an even and resilient mood. The coming year should be one of promise and greater and faster growth—if nothing untoward happens in the international plane which is always unpredictable.

On the whole therefore, the Indian economy which had stagnated by 1979-80 has now recovered and is now on the safe road towards higher progress thanks to the imaginative and long-vision policies adopted and being implemented by the government. ☐

(*Continued from page* 8)

in our society. It is a question of contrasting the two and destroying the latter. As yet we are not even aware of what this problem of incompatible co-existence of science and superstitions in our daily lives is doing to us. This is because the science of life which is taught in our schools, colleges and universities is socially and politically indifferent, and hence ineffective. A change, in the beginning, does not demand any extensive re-organization of present syllabii of biology, although in the long run new courses will have to be designed. However, it definitely needs a scientific and humanist attitude on the part of teachers of biology. If we want to promote scientific temper among our students a change from an indifferent and passive attitude to an active participating and responsible approach towards teaching can certainly help.

Winning the battle on edible-oil front

B. Rai

There is a good scope of increasing oil-seed production by increasing the area under oil-seed cultivation and per hectare productivity. By the end of the Sixth Plan period the annual oil seed production is expected to go up to about 13 million tonnes.

THE LEGACY OF oils and oilseeds in India descends right from the *'Vedas'*, *'Vishnupurana'* and *Kautilya Arthashsatra* : 'O Mortals! just like there is oil within the oilseeds, 'thy master' is within 'thyself', understand it, 'Thou shall be wise, prosperous and happy'. And happy, we were till 1950, because we had plentiful of the oilseeds; even exported some of it But after 1950, the export-spree has slowed down, even discontinued and in the face of it, the import of the edible-oil has steadily increased. The value of import has shot up from a mere 23 crores in 1970-71 to 56 crores in 1973-74, 535 crores in 1978-79 and has almost jumped to about 800 crores in 1980-81. This increasing trend has, obviously, caused a national concern. The huge drainage of our scarce foreign-exchange resources could prove disastrous and, thus, poses serious questions. Why do we need all this edible-oil? Could we not do without it? What is our past performance, our future-planning for its production? Could we not get more from the existing acreages? How quick and best can, this gap between demand and supply be bridged? As a nation, are we capable of overcoming this crisis? So, where are we? Very briefly, this article tries to analyse and answer some of these pressing and pertinent questions.

Consumption

Time-tested, the edible-oils and the *'Ghee'* are the integral part of our daily diet. Used as popular cooking, frying medium, it adds palatability, good-texture, pleasing flavour and a smooth lubricating action to our food. It is, the energy rich (9.3 calories energy per gm) item of our food, and if not required immediately by the body, its energy is stored for its future usage. It helps in increasing the body-weight, softens and shines the skin-texture, helps in maintaining the blood-circulation and beside other functions, gears and repairs the reporductive system. Biochemically, it works as the carrier of the oil-soluble vitamins, (A. D and K), maintains cell-structure and function and helps in the synthesis of prostaglandins, the wonder-substances found in many body-organs to help the various body funtions. But, while the human body could synthesize a number of fatty acids, the constituent components of the edible oils, a major one of it, the linoleic acid, has to be obtained from the oils of the plants-origin. This fatty acid is usually considered essential from human nutrition point of view, primarily because, its optimum intake balances|reduces the level of blood-cholesterol and thus, minimises the risks of a real or even a potential heart-attack. Safflower, sunflower, sesamum, groundnut, soybean and mustard oils contain fairly good amount of this fatty acid and thus, one could safely go for them. However, the place of pride in our food, usually goes to *'ghee'*. So, generally, it costs more. This is followed by *'Vanaspati'*, the common man's *'ghee'* and the oils extracted from various oilseeds. However, nutritionally, there is little to choose between them. The village *'Ghani'* oil is usually preferred, because it maintains good natural flavour. But the food fried in *'Vanaspati'* maintains better texture and crispness.

The nutritionists say that the optimum requirement of oils and fats for the normal-growth of the human body is around 22 kg. per capita per year. However, the normal availability of it in our country is around 4.5 kg. per capita per year. Almost about 30 per cent of our population hardly get any oil in their food. Therefore, there is an immediate need to boost up the production of the oil-bearing plants, more specifically to that of the annual oil-crops, which provide edible oils at the shortest possible time and space.

The total oilseed production which was 4.7 million metric tonnes in 1952-53, arose to 7.2 million tonnes in 1961-62, 8.9 in 1971-72 and around 10.1 million tonnes during 1980-81. Over the last 10 years, the production is virtually stagnating around 10 million tonnes and total acreage is almost revolving around 17 million hectares. The growth-rate was 3.46 per cent between 1952 to 1962 but later (between 1967 to 1979), it declined to 1.62 per cent per annum as compared to 2.81 per cent for the aggregate agriculture production. An economic analysis has indicated that between 1950-51 to 1978-79, the increase in oilseeds production was 61 per cent due to increased area effect, 26 per cent due to increased yield effect and the remaining 13 per cent due to the extra yield interaction effect. Therefore, it appears that there is good scope for obtaining more production by increasing the per-hectare productivity. The requirements of edible oils now come to 4 per cent growth-rate (2.5 per cent for maintaining the present oil-availability and 1.5 per cent for making up the nutritional gap). Keeping this in view, the production targets of edible-oil crops have been kept at 112 and 121 lakh tonnes for the years 1982-83 and 1984-85 and that of the total oilseeds (both edible and non-edible) at 120 and 130 lakh tonnes respectively for these two above mentioned years.

Raising per hectare productivity

It means the vertical growth in oilseed production to be obtained through the utilization of better seeds, better fertilizer usage, protective-irrigation, adequate plant-protection measures, credit-facilities, and the price-support. Quality seeds hold the key to the higher seed yield. But unfortunately, at present, they are in short-supply. For some of the commercial varieties, it is even-non-existent. Experiments have now elaborately indicated that the improved seeds could increase the yield levels by 15 to 30 per cent, protective-irrigation at critical stages by 25 to 30 per cent and the adequate follow up of the plant-protection measures could as well save the yield-loss of these crops by about 40 to 60 per cent. The application of fertilizers and micro-nutrients, even under dryland conditions, could be useful. Even at low doses, the usage of the balance doses of fertilizers is, rather better than applying nitrogen alone which generally is the normal practice. In a number of oilseeds crops, the timely planted crop, generally escapes the on-slaught of a number of devastating diseases and insect-pests. But for the large scale, economic and the widespread control of these field hazards is long range, like many prestigeous field crops, the breeding of resistant varieties would, perhaps, be the only workable answer.

Expansion of area under cultivation

As indicated before, increasing the area under oilseeds has been the major plank of increasing its production in the past. However, in the present context, the oilseed crops could be adjusted very well in the non-traditional crop seasons like summer or as catch|mixed|companion crops in our existing cropping patterns where crop competitions are much less and be increased. There is a good possibility of increasing the area under summer groundnut|sesamum. Over the years, the acreage under summer groundnut is increasing. From a mere 5.5 lakh hectares in 1977-78, it has increased to about 8 lakh hectares in 1979-80 and now it has been targeted to extend it to about 14 lakh hectares by 1984-85. Soybean, the protein-rich crop, but the largest producer of the by product, edible-oil on the world scene, could conveniently find its new home-land in M.P. and *tarai* and the hilly regions of U.P. Now, it could, more meaningfully, help solve both of our edible-oil as well as the protein-malnutrition problems. The acreage under sunflower is also increasing and is expected to touch its 10.5 lakh hectares mark by the end of the sixth-plan period. Like groundnut, it appears, that now sunflower has also come to stay in India. There are good possibilities of increasing the area under safflower crops in the drylands of M.P., Orissa, eastern U.P. and the southern-Bihar. Even under soil-moisture stress conditions where, other crops will not even strike their roots, the drought-tolerant, safflower could grow and give some seed yield.

More processing

The by product oil from the cotton seed, rice-bran and the maize Kennel germ could be developed into the edible grade, if it is processed well. The last 10 years in our country, have seen an increasing trend in the processing of the cotton-seed oil. The quantity of processed oil, which was around one lakh tonnes in 1970-71, has increased to about 2.5 lakh tonnes in 1979-80 and been targeted to raise it to 3.5 lakh tonnes mark by the end of the sixth-plan period. The production of rice-bran oil, likewise at present is around one lakh tonnes. Now, it has been targeted to raise it to 2.2 lakh tonnes by 1984-85 by modernizing the rice-mills for the solvent extraction facilities and by encouraging its processing, collection, marketing and the utilization. Considerable amount of the by product, edible grade maize germ oil could be obtained while processing maize for the starch industry.

Coconut-and red-oil palm

Among the plantation crops, coconut and red-oil palm are the two good sources which could provide considerable amount of edible-oils. Realizing their usefulness in this regard, vigorous efforts are afoot to increase the output of the coconut to about 6750 million nuts from the present level of about 6000 million nuts primarily through planting hybrid coconut, increasing irrigation facility and by controlling the devastating root-wilt disease. Since there is a scope of replacing some uneconomic forest lands by more remunerative plants in Kerala and Andaman and Nicobar Islands, the cultivation of red-oil palm, has been targeted to be taken up in about 6 and 2.4 thousand hectares respectively in these two states. But, this is just a beginning sort of a pilot project. If it succeeds it might catch up and be grown in large acreage in these two states. The sales potential of the oils obtained from seeds|fruits of trees like *Mahua*, *Sal*, *Kokum* and the mango-kernel is considerable in foreign markets. In years to come, it could be meaningfully developed

(*Continued on page 26*)

Inflation—causes and consequences

P. C. Bhinda & C. M. Choudhary

Most of the present day economists seem to pay little attention to the alarming erosion in moral values which have occurred over the last four decades. Inflation is a potent cause of the present malady which, among other things, has increased the inequality of income and wealth thereby leading to socio economic class conflicts.

INFLATION IS A SITUATION in which a continuous pressure is brought on the price level because of the struggle between different social groups to improve income distribution in their favour in a manner which is incosistent with the general scheme.

That inflation reflects an excess of demand over supply is obvious enough but this inflationary gap can emerge as much from an increase in money supply as from a fall in production. These two situations are not the same. It is also clear that a mere gap between demand and supply does not itself constitute inflation. There must be a mechanism in the system which keeps demand continuously ahead of supply. This mechanism is provided by the automatic linkage between prices and wages in the non-agricultural sector.

Causes

Inflation does not mean the absence of an absolute stability in the price level. Development means an increase in investment and there is always a lag between the money expenditure created by investment and the increased flow of consumption goods created by the utilization of the investment. It is this lag which leads to a rise in the price of consumption goods and therefore in the general level of prices. The price rise becomes inflationary only when every rise in the price level becomes the base for a further rise in the price level and the process becomes not only self-sustaining but also self-accelerating.

Following are the basic causes of inflationary rise in prices:

(1) Large increase in the volume of money expenditure—

A major cause of inflationary phenomenon is the large increase that has been taking place in the volume of money expenditure both by the public and the private sectors during the last few years unaccompanied by any corresponding increase in the volume of the output on which this expenditure is incurred. This faster growth of effective demand as compared to effective supply can be represented by the increase in the stock of money assuming that there has been no significant change in the velocity of circulation.

The real and the most conspicuous single factor behind the increase in the money stock is the borrowings of the Central Government from the central banking or deficit financing by the government.

The public expenditure is bound to increase, partly because of the needs of development, partly because of expenditure on national calamities like floods, drought, etc. and partly for compensating the rise in costs of living of government employees resulting from rising prices.

(2) Distortions in the price and supply mechanism—

The steep rise that has taken place in the price level is not just the result of an inflationary increase in aggregate demand. It is also due to the distortions that have taken place in the price and supply mechanism by indiscriminate control exercised not only on essential but also on non-essential and luxury commodities.

When the controlled price is below the market price, the demand at that price is higher than supply with the result that a black market emerges in that commodity.

The inevitable result has been the failure of price controls to produce their expected anti-inflationary

...and, in fact, the results have been in the opposite direction and have reinforced the inflationary pressure by the extending and cumulative block markets they have given rise to.

(3) Deficiency in aggregate supply—agriculture, industry and power.

The growth of output of aggregate supply has been another cause of inflationary rise in prices. It has been lagging very much behind that of total expenditure as represented by its proxy, namely, the money stock at the end of each year. The rise in the prices of primary articles has given rise to a cost-push inflation. The wholesale index number in case of primary articles was 165.8 in 1975-76 which has gone to 271.8 in 1982-83 with the base year 1970-71. All India Consumer Price Index numbers in 1975-76 was 313 which has risen to 479 in 1982-83 with the base year 1960-61. In the absence of an increase in output, the government has resorted to price control, procurement, and public distribution and some years back the wholesale trade in wheat was nationalised in India.

The steep rise in the prices of agricultural commodities witnessed in recent years is due to the failure of output to expand sufficiently to meet the secular increase in demand due to the growth of population and to the increase in money demand due to deficit financing and the accompanying rise in money incomes.

To augment aggregate supplies it is not enough to augment agricultural production alone. Industrial production, in particular, in the organised sector—both public and private—is an important determinant of the rate of inflation. The rate of growth of public sector enterprise has been held back owing to various factors. There has been faulty planning of production. Production has been further affected by much less-than-full utilization of existing capacity owing to the shortage of critical raw materials and powers and less-than-fully-skilled management in many cases. 118 industries for which comparable capacity utilization data are available in 1979-80, there are 33 industries showing capacity utilization of 80 per cent and more, and in 1984-85 as many as 84.

An important reason for the retardation of industrial output has been the shortage of critical inputs such as cement, steel, and power. The demand for power has increased steeply because of the process of industrial growth itself and in particular because of the growth of power-intensive industries such as chemical fertilizers, petro-chemicals, and aluminium.

The failure to achieve plan targets in power was due to variety of reasons, e.g. non-availability of coal, delays in delivery of domestically produced power plant and equipment, escalation of construction costs, delays in starting projects, and poor project management in general.

(4) Lack of administrative efficiency and public co-operation—

Favouritism, nepotism and corruption have become the common features in administration throughout the world. It leads to inefficient management in public sector enterprises and enforcement of various laws relating to price controls, smuggling, black-marketing, industrial licensing etc. and leading to a fuel to the fire of sky-rocketing prices. Wasteful expenditure by the administrative machinery on plan and non-plan heads.

Public consciousness does not encourage the social evils such as smuggling, black marketing, hoarding and thereby the rise in prices is checked to some extent. Contrary to it the market for all these vices flourishes.

Consequences

Inflation has varied consequences in both developed and developing countries. The first two decades (1950—70) witnessed a definite shift in favour of industrial countries. The percentage shares in total World Exports has increased from 63.6 to 77.7 while the share of oil exporting countries has declined from 7 per cent to 6.1 per cent during the said period.

The wage-earners and other fixed income groups in general are the most sufferers. A recent International Labour Organisation (ILO) survey for 1980 shows that the annual rate of inflation was quite high in the following countries—

Annual Rate of Inflation ILO Survey (1980)

Country)	Percentage
Israel	131.5
Argentina	88.0
Bolivia	50.4
Sri Lanka	43.3
Chile	30.4
Columbia	27.2
Venezuela	22.2
El salvador	18.3
U.K.	16.9
Paraguay	16.5
Newzealand	16.4
Sweden	15.0
Norway	12.9
U.S.A.	12.6
Canada	10.7
Australia	10.3

The mad race to lock up funds in the form of gold, land, palatial buildings etc. has led to various socio-economic consequences.

Although most present day economists seem to pay little attention to the alarming erosion in moral values which has occurred over the last four decades, inflation is a potent cause of the present day malady and the following consequences can be seen in such a situation :—

(1) Inflation has put a lot of unearned or badly earned income in the hands of a few persons. It has increased the inequalities of incomes and wealth thereby leading to socio-economic class-conflicts.

(Continued on page No. 21)

Integration in project implementation : family resource perspective

Revathi Balakrishnan

The DWCRA focuses attention on women and children in selected families. In order to implement effectively the project, it should be tailor made to help families utilize their available resources within the family's social and economic constraints. Another dole out programme from government agencies to the women and children without considering it's impact on the family's human and non-human resources should not be perpetuated. The family should get involved and be willing to utilise it's resources to help itself.

A BLUE PRINT for rural development, using an integrated rural development approach was conceptualized at the Science Congress in 1976, with the objective of promoting the welfare of rural families in all aspects of their lives. At the same time, since 1975, women's roles in family and farm related activities also have come to be recognised. Hence enhanced emphasis to involve women in the economic political spheres in developing societies has now come to be the focus. One of the many efforts to involve women in development projects, is the scheme "Development of Women and Children in Rural Areas" (DWCRA) under integrated rural development programme. The target groups in DWCRA, are the women and children from families with income below poverty line.

Emphasis is being placed through this DWCRA programme on (1) economically viable activities for rural women with a focus on developing managerial or entrepreneurial skills along with marketable goods production skills and (2) reducing drudgery in the household production activities. It is encouraging to note that an awareness has evolved in the project formulation process from treating women as a child producer to household consumption goods producer to household income producer to finally also as a human factor with potential for resource management. When women are viewed as an important element only in population growth as child bearers, the focus of all women's programme in development was related to family planning. Later the focus was shifted to teach women how to be nutritious food consumers Now the focus is to develop their productive skills in agricultural and other marketable goods. A missing link was the lack of focus on the entrepreneurial skills of women. The project implementation agenda for DWCRA plans to create managerial skills in women who are involved in economically viable group activities. But there are few aspects which need to be objectively thought through implementing DWCRA. A few salient, aspects are analysed under the following dimensions :

— Family resource focus.
— Education programme for women.
— Time and energy resource costs of women's income generating activities.
— Multiple agencies—multiple services complexities.

Family resource focus

The DWCRA focuses attention on women and childern in selected families. In order to implement effectively the project, it should be tailor made to help families utilize their available resources within the family's social and economic constraints. Another dole out programme from government agencies to the women and children without considering it's impact on the family's human and non-human resources should not be perpetuated. The family should get involved and be willing to utilise its resources to help itself. Prior to the rhetoric on 'Community Action' for rural development a pragmatic approach to 'Family Involvement in Rural Family Development' should be spelt out for

realistic implementation. A first step toward integration in rural development is using a holistic family resource utilization approach in project planning and implementation.

Education programme for women

If women are to be managers, what are the resource management skills to be imparted and by whom. Women participants are family resource managers in their homes. Particularly in rural Haryana women manage milch animals to generate income both in kind and cash. They are, therefore, already practical managers. The educational component planned for these women in DWCRA should focus on improving their skills to become effective managers in a dynamic economic environment. Training for decision making, using the various government agencies which deliver infrastructure services, organizing and managing co-operatives, using banking services, keeping simple accounts and maintaining simple stock inventories should be essential components of educational programme that focuses on the development of women as human resources.

Yet, all village women may not be motivated to be involved in entrepreneurship oriented educational programmes. The target group should be women with a minimum literacy level of 7th or 8th standard education, who are willing to learn.

Who should impart such education ? The agricultural university—based family resource management specialists in the Colleges of Home Science should develop short-run educational programmes and also develop consultancy extension services to aid targetted women's groups involved in economically viable activities.

Time and energy resource costs

There are some income generating activities which create additional demands on the time and energy costs for women participants. The focus on generating money income in isolation without acknowledging the inter-relationship with time and energy costs involved in such income generating activities has not always been to the best advantage of women. Household drudgery does not decrease for women who participate in income generating activities. The costs and benefits for the total family resources should be weighed prior to introducing economically viable or income generating activities, exclusively for women. Another dimension to be considered is the possible conflict between attributes of "Traditionalism" in home-making activities prevalent in rural homes and that of "Modernism" in the income generating activities to be introduced.

The costs and benefits in terms of time and energy need to be studied. The agricultural university based family resource management specialists can play an effective role in matching appropriate technology to suit the needs of rural women in home, farm and economically viable activity sectors.

Multiple agencies—multiple services complexity

Many services are being delivered through various government agencies to rural women. DWCRA also plans to utilize the inputs from these various agencies in developing women's economically viable activities. But what is lacking is the co-ordination among, and knowledge of, the various inputs available through various government agencies for helping women. This lack of knowledge is more prevalent among the village level functionaries. The services provided and the agencies that provide the services are also constantly changing. The dynamic nature and complexity of rural development at the policy level confuses the functionaries at the village level who are to facilitate rural women to help themselves. There should be a liaison information unit linking the information needs of the functionaries with government and|or other agencies that offer programmes to aid rural women. In this complex and changing rural development environment information search is a difficult task for rural functionaries. The information search cost of a village functionary means cost in time that could have been otherwise spent in productive field level activities.

In order to utilize the village level functionary's time in field work instead of searching for information, it is proposed that two types of courses be structured :

(1) Orientation Programme to newly appointed functionaries; and

(2) Periodic refresher courses for those functionaries who are already working in the village.

Further the information flow can be facilitated through information Cell on Women's Development programmes by family resource management specialists who have expertise in consumer information delivery systems as part of their subject matter programme.

There are some thoughts on developing integration in the integrated rural development programme which aims at involving women in development through DWCRA. The Family Resource Management Department in the Colleges of Home Science of Agricultural Universities can develop useful programmes and support services so as to aid in the effective implementation of DWCRA. □

(*Continued from page No.* 19)

(2) Inflation has encouraged demonstration effect on a large section of the society, in harbouring high expectations with regard to the level of income|consumption without putting sincere and honest effort to attain that level.

(3) It has progressively eroded the real value of money earnings compelling honest and sincere persons to work harder and harder even to stay where they were.

(4) It has forced a large proportion of women and even children to enter the employment market first to make both ends meet. It has led to exploitation of women and children by the employers in unorganised industries. Their physical and mental growth is retarted.

(5) Operation of inflationary tendencies have given recognition for many unethical and illegitimate practices so that the straight path is often found to be deserted and dangerous to follow. □

Suggestions for approach to U.P.'s Seventh Plan

Ajit Kumar Singh

Behind any five-year plan, there has to be a longer perspective. It will be useful exercise to prepare a long term perspective plan for U.P. covering the period 1985 and 2000 AD to guide the policy makers, says the author

OUR COUNTRY is now in the fourth decade of Independence and planned economic development. In spite of the creditable achievements in diverse spheres of national life and economy over this prolonged period, we have many more promises to keep and miles to go before the cherished objectives of eliminating poverty and ensuring a decent life to every citizen is fully realized. The long run which the planners visualized in the beginning has already become a thing of the past. The masses are getting restive while time is slipping fast adding an urgency to the efforts for planned economic development. Initial thinking has already started at the national and state levels for the formulation of the Seventh Five Year Plan. This provides an opportunity to look back critically at our past achievements and also to start the search for an appropriate approach and strategy for future plans. The present article offers a few suggestions in this regard for the consideration of the planners and policy makers.

Importance of state plans

The success of national plans in realizing their objectives depends to a considerable extent on the effectiveness and quality of the planning process at the state level as the state plans account for about half of the total plan outlay. Over the years several measures have been undertaken for improving the quality of state plans, which suffered from a number of defects in the past. Each state plan must aim at the optimum utilization of the natural and human resources available in the state in the light of its specific problems and potentials within the framework of national priorities.

The demographic situation

In formulating any plan one has to start with a critical appraisal of the current situation and the past achievements. The first thing to which the state planners must pay their full attention, in this context, is the changed demographic situation as revealed by the Census of 1981. Till 1971 the rate of population growth in U.P. was relatively low, being 1.8 per cent per annum during 1961—71 as against the rate of 2.2 per cent for India as a whole. However, during 1971—81 there has been a sudden acceleration in population growth in U.P., which registered a higher growth rate than the country for the first time—2.3 per cent per annum as compared to 2.2 per cent per annum. This changed demographic situation has obvious implications for the growth of per capita income and the objectives of poverty removal and employment reduction.

The chief dynamic behind this divergent pattern of population growth in U.P. and India has been the fact that the brith rate in the state has shown greater stickiness than in other parts of the country while death rates have been declining. According to the latest Sample Registration Bulletin both birth and death rates in U.P. are markedly higher than the national average as shown in Table 1. The current demographic situation in U.P. is characteristic of the least developed economies. It also reflects the tardy progress of family planning programme in U.P. where only 13 per cent of couples in the reproductive age group have been effectively covered as compared to the coverage of 25 per cent in India.

The demographic situation calls for re-invigorating the population control programme in U.P. to bring down the birth rate in the state over the next plan period, a goal which assumes special urgency in view of the high infant mortality as well as high crude death rates in U.P.

TABLE 1

Vital Rates in U. P. and India, 1981

Rates	U.P.	India
Estimated Annual Live Birth Rates per 1,000		
Rural	40.8	35.5
Urban	31.5	26.9
Combined	39 6	33.9
Estimated Annual Death Rates per 1,000		
Rural	17.3	13.6
Urban	9.9	7 8
Combined	16 3	12 5

Source : Sample Registration Bulletin.

Structural stagnation

One important consequence of the rapid population growth has been the continuously increasing presure of population on land. According to the Census of 1981, as many as 74.34 per cent of total main workers in U.P. were engaged in agriculture as compared to 66.69 per cent in India. Our plans have failed to generate a sufficient rate of growth of the non-agricultural sector, which may absorb the increase in the labour force, which is forced to seek employment in agriculture. As a consequence the occupational structure of the state has revealed a long period stegnation. **The state planners should prepare a perspective plan for diversifying the economy and transfer workers from the agricultural to the non-agricultural sector.**

Agrarian reorganization

Another major dimension of the problem of increasing population pressure which must receive serious attention of the planners is what may be called the process of growing 'miniaturization' of land holdings, as a result of which the average size of land holdings has become very small (i.e. 1.81 hectares) and a very large number of holdings has become economically non-viable. Thus, according to the land census of 1976-77 as many as 85.77 per cent of operational holdings in U.P. belonged to the category of small and marginal farmers (i.e. below 2 hectares) accounting for 45.6 per cent of total area of holdings. The small and marginal farmers, who suffer from the handicap of limited resources, cannot easily take up the costly new agricultural technology. The inegalitarian rural power structure further restricts the access of these farmers to institutional sources of credit and other inputs. The situation which is likely to worsen in future is going to pose a most serious constraint to the further expansion of agricultural production and modernisation of technology.

Agrarian reorganization, which has receded from the agenda of rural development after the fifties, cannot be delayed any longer. The institutional developments like SFDA, MFAL or IRD, though useful in their own way do not provide a complete answer to the problem. Our planners, scientists and administrators must devote their full attention to the task of developing a suitable packet of technology for the small and marginal farmers and appropriate organizations to reach them this technology together with necessary credit, marketing and other services.

Quality of human resources

Another very important area which deserves special attention of the state planners is that of investment in human capital, which is recognized by modern economists as a main source of economic development. Although U.P. is the most populous state of the country, it is lagging behind other states in the level of human resource development as seen in Table 2. Literacy levels, particularly in the case of females, continue to be very low in the state. The situation is far from happy with regard to the availability of various educational and health services. This is an ample evidence of the fact that the level of investment in human capital has been far from adequate in the previous plans in U.P. If U.P. is to break away from the present quagmire of poverty, ill health, ignorance and squalor and make all round progress, its planners will be well advised to step up substantially expenditure on the improvement of the quality of human resources, its most previous asset.

TABLE 2

Indicators of Humans Resources Development in U P. & India

Indicator	U.P.	India
1. Percent of population literate, 1981		
Total	27.4	36.2
Male	38.9	46.7
Female	14.4	24.9
2. No. of recognized junior basic/primary schools per lakh of population, 1978-79	77	87
3. No. of pupils in primary schools per lakh of population, 1978-79	840	1038
4. Population per doctor, 1978-79	6674	4300
5. Hospital beds per lakh of population, 1978-79	60	95
6. Per cent of villages with piped water supply	11.6	N.A.
7. Per capita annual plan & non-plan expenditure in 1981-82 on—		
(a) Education	Rs 35	N A.
(b) Medical and health facilities	Rs 11	N.A

Relative rates of growth

In the preceding paragraphs we have drawn attention to certain important demographic and structural factors which must be kept in mind by the planners while formulating the next five year plan. Before coming to the question of plan priorities we would briefly discuss the relative rates of economic growth in U.P. and India during the preceding plan periods.

TABLE 3

Rates of Growth of Total and Per Capita Income in U. P. and India (Percentage Per Annum)

Period	U.P.	India
	Total Income	
1960-63 to 1970-73	2 24	3.41
1970-73 to 1978-81	2 57	3.62
1960-63 to 1978-81	2.38	3 50
	Per Capita Income	
1960-63 to 1970-73	0 57	1.18
1970-73 to 1978-81	0 73	1 37
1960-63 to 1978-81	0.59	1.26

According to the estimates of the Planning Department the state income of U.P. is expected to increase at the rate of 4.5 per cent per year during the Sixth Plan against the plan target of 6 per cent. In our opinion, however, the long period trend rate of growth is much lower than this level. In view of the sharp yearly fluctuations in state income we have calculated the rates of growth on the basis of three yearly averages. As shown in Table 3 the state income has been growing at a rate of only 2.38 per cent per year during the last two decades and the per capita income at a meagre 0.59 per cent per year. These rates of growth are extremely low and significantly below the growth rates observed in India, which themselves were modest. As a result of these differentials in growth rates we find that the distance between the per capita income of U.P. and India has been steadily increasing. Thus, whereas the level of per capita income in U.P. was about 5 per cent above the national average at the beginning of the planning era, it is now about 25 per cent below the national average. These figures show that our five year plans have not been able to make an appreciable improvement in the levels of per capita income particularly so in U.P.

Needed a big push

U.P.'s economy needs a big push to set it on a path of rapid growth. **The aim should be to achieve a gradual acceleration in the rate of growth over the next plan periods.** For the Seventh Plan a target of 6 per cent appears to be both feasible and desirable. Realisation of a higher rate of growth requires a much larger level of investment than has been possible in the past.

TABLE 4

Per Capita Plan Outlays and Central Plan Assistance in U.P.

(Rupees)

Plan Period	Plan Outlay		Central Assistance		Central Assistance as percent of plan outlay	
	U.P.	All States	U.P.	All States	U.P.	All States
First Plan	25	38	13	24	52.4	61.8
Second Plan	32	51	17	26	52.8	50.8
Third Plan	72	92	46	55	63.6	60.4
Annual Plans	53	56	30	36	57.5	58.6
Fourth Plan	132	142	58	65	43.9	46.1
Fifth Plan	329	372	144	147	43.7	40.2
Sixth Plan	567	692	218	258	38.4	37.3

Source : Planning Department, U.P., *Draft Annual Plan* 1983-84.

Table 4 gives an idea of the size of the development effort in various five year plan periods. Per capita plan outlays in U.P. have consistently fallen short of plan outlays in other states and much of the increase over earlier plans has been nullified by the price rise. To attain the suggested growth rate of 6 per cent per year during the Seventh Plan the size of the state plan outlay would have to be raised at least to a level of around Rs. 12,500 crores as against an outlay of Rs. 6,200 crores at 1979-80 prices. Apart from aiming at higher investment in the public sector, measures are also required to encourage private capital formation in different sectors of the economy, which have also been on the lower side in the past.

There can be no escape from a determined effort to mobilise additional resources in the coming years by the state government. The central government on its part must realise that the state's efforts need to be supplemented on a much larger scale than in the past by a greater flow of outside resources, in view of the extreme poverty in the state.

The long term perspective

Behind any five year plan there has to be a longer perspective. It will be a useful exercise to prepare a long term perspective for U.P. covering the period 1985 to 2000 to guide the policy makers. Such a perspective at the state level need not be constrained by the requirements of balance and demand projections, which are more relevant at the national level. Rather they should indicate the expected behaviour of the major economic variables of the state economy based on a realistic assumption of past trends and future potential. Alternative scenarios of development over the long run and the investment and policy mix implied by them can be very helpful in guiding the policy makers in selecting the most appropriate one. Such projections will further help in presenting the likely shape of the economy after ten or fifteen years if different rates of growth are realized as also in indicating the size of development effort required to attain the objectives of removal of poverty and unemployment latest by the end of the present century.

In our opinion such a long term perspective should also incorporate two other important dimensions : (a) first a perspective of the structural change in the occupational pattern of labour force to reduce the burden of population on land; and (b) the regional profiles of growth aimed at a convergence of per capita income levels over the next decade.

Plan priorities

We may now turn to the question of plan priorities. Table 5 gives the sectoral distribution of Sixth Plan outlay in U.P. The state government have rightly been emphasizing the expansion of economic infrastructure. Power, irrigation and transport sectors accounted for as much as 62.5 per cent of total Sixth Plan outlay. However, the allocations for social services like education and health as well as for industries seem to be on the lower side.

TABLE 5

Sectorial Outlay in U.P.'s Sixth Five Year Plan (1980—85)

Sector	Plan Outlay (Rs. Crores)	Percent of total Plan Outlay
1. Agriculture & Allied	1027.26	16 6
2. Cooperation	57.39	0 9
3. Irrigation & Flood Control	1184.00	19.1
4. Power	2153.00	34.7
5. Village & Small Industry	125.00	2.0
6. Industry and Mining	206 10	3.3
7. Transport & Communication	550.00	8 9
8. Education, Cultural and Scientific Research	177.75	2.9
9. Medical & Health	150.00	2.4
10. Miscellaneous Services	569.00	9.2

The freedom of the planners to alter the priorities is severely constrained by the existing pattern of allocation since continuity in the planning process has to be maintained. Moreover, there is a considerable spillover of plan projects from one plan to the other. In view of the considerable leeway that the state has to cover in the field of infrastructural facilities, everyone would agree that the power and irrigation sectors should continue to get the largest share in plan outlays. One may, however, point out that there is a substantial scope for reducing the project costs if their implementation is speeded up and efforts are made to economise expenditure and check leakages due to corrupt practices. This is an area where greater attention can pay rich dividends. This can help release a substantial amount of financial resources to other priority sectors without affecting the realization of physical targets in these sectors. Better utilization of the created capacities can also help much in meeting the demand for power, etc. The question here is more of managerial efficiency, labour disciplines and political direction rather than of more finances.

Governed by the considerations of all pervasive backwardness Indian plans have tried to take up measures for improving every aspect of the economy simultaneously. Perhaps such an approach was unavoidable due to pressures from all sections for their development. However, this has meant a certain lack of specific focus in plan priorities and a consequent frittering of limited resources and capabilities over a wide area.

In our opinion, now it should be possible for our planners to select certain specific areas for special effort in each plan so as to give a clear thrust to efforts. Adequate resources and best administrative talents should then be mobilised to realise the targets in the selected area. Such an approach will contribute much towards improving the quality of plan implementation and correcting the imbalances which may develop from time to time.

We would like to suggest that in U.P.'s Seventh Plan special efforts should be directed to two specific areas, i.e., (a) improvement in the quality of life, and (b) rapid industrialization. As we have pointed out earlier U.P. is lagging behind in investment in human resources and the availability of basic amenities of life like, education, health, etc. Our efforts should be directed to attain at least the minimum national norms in these services by the end of the next plan. **Such a basic needs strategy of development will not only result in a direct and immediate improvement in the quality of life of the poor masses, but will also help laying down the foundations of rapid all-round development in the long run by raising the human resurce potential of the state.**

The necessity of rapid industrialisation of U.P. stems from the extreme pressure of population on land and limits to further sub-division of land. In the first two decades of planning the industrial sector did not receive enough attention and hardly any significant investment was made in public sector in U.P. either by the state or the central government. The situation has no doubt changed for the better to some extent in this respect during the last few years. However, even in the Sixth Plan only 3.3 per cent of total outlay was earmarked for the medium and large industry and another 2.0 per cent for small and village industry, most of which will be by way of providing loans and other facilities for private sector.

A big programme of **industrialization aiming at rapid structural change and modernization of the state economy should be taken up in U.P. so that higher income and employment levels are generated**. In this context we would like to suggest three areas for action by the government. Firstly, direct investment in industry by state government should be undertaken on a large scale. Secondly, efforts should be made to secure a larger number of central sector projects for location in the state, which has long been neglected in this sphere. Thirdly, an appropriate policy mix should be evolved in order to improve the investment climate in the state to attract private capital on a substantial scale.

Popular participation

Ultimately the success of a development plan depends upon the degree of popular enthusiasm it is able to generate. The newly formed democratic bodies from village panchayats to zila parishads in U P. provide a forceful instrument of planning at the grass roots. **In addition, there is a vast unutilized potential of human resources at the local level in the form of staff of educational institutions, retired civil and defence personnel social workers, etc. whose talents can be mobilised to undertake local level studies, suggest programmes for local development and help in implementation of district plans.** One possible way to do this would be to set up planning forums at the village, block and district levels. Human resource inventories should also be prepared at these levels enlisting names of people with different types of skills and areas in which they would like to cooperate with public agencies in development work. Such an effort, it is hoped, will go a long way towards making our development plans, peoples plan in a real sense and in unleasing boundless human energy for national development.☐

(Continued from page 17)

as an export-item. It has been planned to produce about 1.6 lakh tonnes of these oils by the end of Sixth Plan period.

Location-specific technology

Agriculture is highly location-specific. The oilseeds production technology relevant under Punjab-Haryana conditions may or may not be relevant or totally applicable to the Assam or the Kerala conditions, the one developed for the plains may not be good for the hilly regions and that of the low-lands to the uplands, since the growing conditions are different. So now, there is felt need to develop and popularize the location-specific, field-oriented production-technology on area to area basis, crop to crop basis, so that the valuable and the relevant knowledge reaches the farmers in the shortest possible-time. Now, there is also felt need to set up an oilseed training cum-communication centre in each major oilseeds producing state with its branches in each of the major oilseed producing district. Preparations of short-films, special bulletins, radio-television programmes on these crops could as well be helpful to the farmers in doing their jobs well and thus producing more oilseeds for the nation.

The production-incentives

In the past, the price-structures have been mostly speculative resulting in large fluctuation in prices since price support has been non-existent, timely marketing facilities have been rather ill-organised. So, the incentives for investments in their production have been minimal. So, production has been staggering, mostly at the subsisting-level or just to meet the farmers own needs of the edible oils. Fortunately, increasing the production of these crops, have been included in the Prime-Minister's new 20 point-programme and now there is a better deal for these energy rich crops grown in the energy-starved conditions. Now fortunately the price-support for major oilseed crops like groundnut, rapeseed-mustard and newly introduced crops soybean and sunflower has come. Also with the better credit-facilities through the nationalized banks and the good prevailing market prices, the oilseeds-production is now likely to go up. But, most of the oil-crops growers are basically the dryland farmers and are by and large, economically poor. So, to start with, there is a need to introduce a subsidy on the seed cost and the follow up of the plan-protection measures since these are the major component on increasing their production. Each year at least 10 per cent of what we spend on the import of edible oil, should as well be spent for strengthening the research and development efforts of oilseeds-production. This requires a bold policy decision but in the present context, it would be rather imperative for obtaining and sustaining the self-sufficiency in this neglected sector of our agricultural economy.

The country is poised for a higher production of the edible oils and could expect to obtain the near self-sufficiency in years to come. By the end of the Sixth plan period, the production of oilseeds is expected to go up to about 13 million tonnes annually. ☐

Corrections

In our Issue dated January 1—15, 1984, the name of the author of the article "Development is not a politically neutral task" published on page 23 has been mentioned as Harish Sethi. The author's name is Harsh Sethi and not mentioned in the issue. The courtesy live at the end of the article on page 28 has been dropped in advertantly. It should read as "Courtesy: ceres". The omission is regretted.

—Editor

The concept of living state

R. K. Mishra

The synthesis of all functions in body leads to the process of life as in this investigation the author has described a new unit of energy, the unit-energy required for life, since the whole body is connected to each other, and is continuously excited in some way or the other by units of this energy. The flows of these units of energy excite the body to adopt the structures seen in a body for a given life time.

IN THE HISTORY OF MANKIND there have occurred brief periods of intense creative activity in diverse fields, all over the planet. One such was round the 4th Century B.C. when Gautam Budha, Confucius and Pythagoras flourished While the former two were occupied with right behaviour and divinity, the Greeks from Pythagoras onwards investigated logic and science while Aristotle later searched into the flora and fauna of the upper Nile More recently such a period occurred in the middle of the 19th century. Not only was there political and social dissent writing of the Communist Manifesto, but also scientific discoveries like Darwinian evolution, rediscovery of cell, foundation of cell pathology and stabilising the notions of thermodynamics. These were of great revolutionary impact.

Where synthetic approach begins analytical approach ends

Science has meant analysis of all structures and phenomena. For example, by analysing the components, in man viz. lungs, liver, heart, kidney etc., one tries to understand their physiology, their diseases and methods of cure. Science has gone still further and analysed the cells whose derangements cause diseases. Surely, some diseases and functions take origin at the cellular level. The analysis proceeded further with the discovery of the construction of DNA, and we now have functions and diseases brought about by molecules. For example, the replacement of a single amino acid in the pigment of the blood, haemoglobin, results in a particular disease called the Sickle cell anaemia.

The biggest problem of this analytical approach was that the mankind forgot that the whole body acts at the same time. The function of breathing, the pumping of heart, functioning of the brain, leg movements, working of the intestine stomach and formation of urine—all take place simultaneously. Their coordinated activity was progressively ignored, and now we do not know how to put them together once again. The result has been that we know a great deal of diseases due to bacteria, viruses, chemicals, radiations etc., because we know how they act on various individual elements of the cell or on the cell or the organ. With the knowledge of this pathology, therapies have been designed, although in many cases these have followed emperical or accidental observations of something curing the disease. The agent is then refined and better drugs made. Thus we had penicillin to begin with, and host of other antibiotics were soon discovered and manufactured. It is not at all surprising therefore that fare control of infection and nutrition is possible by modern methods at least for the time being. We say "for the time being" because in the present system we ignore that synthesis of all functions leads to the process of life. Administration of a particular compound while curing one disease is most certainly going to cause imbalance in the whole biochemistry of man. While powerful drugs have come into vogue only for a few centuries now, mankind has lived with nature for millions of years and has adapted to its rhythm and its goals. The mechanisms of survival have been developed by living with nature. This forces us to find out new synthetic approaches which will analyse global interaction of all the systems mentioned above in man as a whole, in man who can act as a partner of nature, and not as its exploiter or its victim.

Abnormal syndromes by hormones and drugs

It is not for the diseases and therapy of these conditions alone that we talk of synthetic approaches to understand life. We talk of this because there are many diseases which are alterations of a whole general set of elements rather than particular molecules or cells, or tissues or an organ. Indeed three-fourths of the ailments, namely diseases of development, possible genetics, ageing, endocrine glands, abnormal cell proliferation like tumours, may depend upon the balance of factors not working at the proper time. With improper functioning one gets improper products and improper rhythm in the body. Indeed the reason why many abnormal phenomena occur in body is because the rhythm of the flow or manufacture of molecules get disturbed. For example, it is a well known law that a hormone given from outside depresses the hormone from the gland, from which it is naturally produced in the body of the patient. The proper balance can then be achieved by stimulating that gland further by machinery in the whole body. Therefore, if we administer a hormone, it is causing a disease which the body is trying to cure This is the reason why abnormal syndromes are produced by the hormones and the administration of drugs. They are also produced by allowing things to go beyond the control, which human body can exercise For example, antibiotics which interfere with protein metabolism will cause nutritional deficiency and severe abnormality in gastrointestinal function. Thus a synthetic approach is necessary to stop the degradation of modern medical science and to address ourselves to more than 75 per cent of physiology and pathology.

Fortunately, his field has been opened and several scientists like Prigogine, Haken Davidov and Frohlich are engaged in such approach. This aspect has received great encouragement for the first time. We are aghast at the damage that has been done, even though we have some uses and profit in the control of disease. The synthetic or synergetic approach is directed towards maintaining a positive health. It is given in nature for a human system even to combat cancer. In every cancer patient there are processes going on to control the growth, but they are soon overwhelmed. The synergetic approaches that we talk about depend upon a few facts which are enumerated below :

1. There must be a cooperation between denumerably large elements, elements one cannot count But it is to be understood that for some time all of them are in the same state, same physical state, in the dimension of energy : or in other words they have same energy, they are coherent.

2. Such interaction arises due to pushing the system away, very far from their stable point, due to input of energy. This is always going on more or less depending upon molecules and systems There should also be a flow of energy; thus an energy-pump is essential. This may be from outside or inside the body. Every atom in the body acts as an energy-pump. Once the energy is put in and matter is ingested as solid or liquid, organised forms can be generated which exist for some time and die, that is they are dissipated; they are not conserved. The matter and energy then leave the body as excretions, heat loss, evaporation etc. This is called an *open system*. These are the dominant ingredients of creating conditions where time-bound formation of transient structures can result.

Fresh concept of "Loose structure"

Our own contribution allows in finding the proper sources of energy-pumps and the proper connections between various elements. These are such that these transformations are supported and to certain extent promoted. This is the meaning of the living state. If we condense gas it becomes liquid and the liquid can be condensed to solid. Each time new properties arise, for example · ice is different from water. If you have particular combination of atoms you develop a semiconductor In a particular combination we develop a super conductor or a superfluid. *Living State requires a fresh concept of what we call a "loose structure".* This is a structure which is so constructed that smallest amount of energy, even a photon, will cause a signal and change of many elements to respond to and account for the energy that is being put in.

Two important examples at this point of the synthetic approach are given to elucidate our work in pathology and in neurology. In pathology, we propose a model-free theory of cancer. We say that the cancer is not due to one cause and one protective device or one drug, but rather an imbalance of all forces that cause cancer and the protective mechanisms against cancer. Thus there is no model. That is to say that the cancer is not caused by an agent X. The cancer may be caused by agents XY, or modified X, and there are protective mechanisms P1, P2, P3, and it is the balance of all these which determines the tumour. At a certain size the tumour cannot be seen by the body and it is dealt with locally by the protective devices. At a certain size it can be rejected by the body defences with a little help from outside. After that size is exceeded, the tumour cannot be cured by body defences, and surgical intervention or chemotherapy becomes necessary.

In neurology we propose a "centre" in the base of the brain near the pituitary gland, which is indirectly connected to the topmost gland in the human anatomy, the pineal gland. The excitation of the entire nervous sysem reaches this centre, which we call the area of "zero mu" (ou). The letter "o" indicates absense of excitement in the area intially The letter "o" need to show that this area is the 'seat' of the feeling of "me" or the "mind". The interesting feature is that this particular 'centre' at least in theory, can be excited by a pencil of "light" or excitation, which finally goes out from a given area in the brain to this particular site as a result, we begin to see an object, and the body works for a proper response.

Much of modern medicine needs heavy complimentation by the ideas as they exist at persent in two fields, namely (a) Synergetics, (b) far-from-

(*Continued on page* 29)

Science and Technology Notes

Help for Goitre control

The Central Salt & Marine Chemicals Research Institute (CSMCRI), a laboratory of the Council of Scientific and Industrial Research (CSIR), based at Bhavnagar, has developed a simple process for preparing iodised salt which can be effective for goitre control. The disease is caused by iodine deficiency, which results in an enlargement of the thyroid gland.

In the CSIR process, common salt is submerged in saturated brine, containing 250 to 300 mg of calcium iodate per litre. The resultant mixture, after being drained, contains salt which has 15 mg of iodine per kg.

The iodised salt has been tested by the National Institute of Nutrition in Hyderabad which has recommended its use for goitre control. The present requirement is ten lakh tonnes as against which the current production by the public sector Hindustan Salt Ltd., is about 2.5 lakh tonnes.

In view of the country's needs CSIR has decided to provide technical know-how about the production of iodised salt free of cost to interested enterpreneurs. Already, the know-how has been released to a number of parties.

Goitre is endemic in hilly areas, specially in the sub-Himalayan territories from Jammu to Assam and certain parts of Uttar Pradesh.

Anti-Cancer Drugs

A leading pharmaceutical firm in Bombay has begun commercial production of vinblastine sulphate and vincristine sulphate, two drugs which have been found to be effective in certain types of human cancers.

The production is based on a process, developed by the National Chemical Laboratory (NCL) Pune, for the isolation of vinblastine from the dried leaves of Vinca Rosea (Catharanthus roseus), which is popularly known as Sadaphuli in Marathi. Vinblastine is later converted into vincristine.

Vinblastine is used in the treatment of Hodgkin's disease and other lyphomas and choriocarcinamos. Vincristine is used effectively in the treatment of leukaemia or blood cancer.

The Maharashtra Government had initiated a project for the isolation of these active alkaloids from vinca leaves. The work was taken up by NCL, a CSIR laboratory, with matching inputs. The result was the development of a process which will bring cancer treatment within easy reach of their patients.

The drugs are at present imported from Hungary and the U.S.A. at a cost of about 50 lakh to 60 lakh rupees annually.

Better bullock-carts

Field trials on the prototypes of bullock-carts with improved designs which had been earlier fabricated and distributed to farmers in areas around Delhi have enabled Central Road Research Institute (CRRI), New Delhi, to effect further improvements.

On the basis of the feedback data combined with further laboratory tests, improved cart designs with many innovative features have been evolved by this CSIR laboratory. The improvements in the design include the provision of an improved housing unit for bearings for wheels, adjustable drawbar, convertible platform, braking system, etc.

The technology for the improved bullock-cart is available to manufacturing parties on a nominal payment.

Blooming time of Amaryllis delayed

A simple technique has been developed at the National Botanical Research Institute for delaying the blooming, till June, of amaryllis, which normally blooms in Lucknow during March-April. The technique lies in removing the bulbs from the ground in December and storing them at room temperature till mid-May, when they are planted in soil. The plants coming out of these bulbs bloom the very next month. A hundred per cent blooming has been recorded and the blooms have got almost the normal colour and size

(Courtesy : CSIR)

(Con)tinued from page 28)

equilibrium-thermodynamics. But they need a "loose structure", as this state is described by us. During this investigation, we were led to describe a new unit of energy, the unit-energy required for life, since whole body is connected to each other, and is continuously excited in some way or the other by units of this energy. The flows of these units of energy excite the body to adopt the structures seen in a body for a given life time.

(Based on a public lecture at All India Institute of Medical Sciences).

Economic Notes

Karnataka 1984-85 Plan for Rs. 650 crores

KARNATAKA will have an Annual Plan size of Rs. 650 crores during 1984-85 as compared to the approved outlay of Rs. 575 crores during the current Annual Plan which implies an increase of 13 per cent over 1983-84 Plan outlay.

Goa, Daman & Diu Annual Plan

THE ANNUAL PLAN size of Goa, Daman & Diu for 1984-85 has been fixed at Rs. 60 crores against the current Annual Plan outlay of Rs. 51.12 crores.

Meghalaya Plan Outlay

MEGHALAYA WILL have an Annual Plan size of Rs. 65 crores against the current Annual Plan outlay of Rs. 56.32 crores.

Mizoram Annual Plan 1984-85 Outlay

MIZORAM will have an Annual Plan size of Rs. 40 crores during 1984-85 as compared to Rs. 34.80 crores outlay of the current plan.

Priority credit cell opened

CANARA BANK has entered a new horizon by opening 'Priority Credit Cell' in its select branches to overcome the procedural delays and deficiencies in extending further credit especially under agriculture and national programmes.

One such cell was opened recently in the Poonamallee branch in Chengalpattu District, Tamilnadu. The Cell was inaugurated by Smt. Sarojini Varadappan, Sheriff of Madras City and a number of IRDP loans, Gobar Gas loans and Dairy loans were disbursed by her during the occasion. As a person hailing from Poonamallee, the Sheriff had appreciated the development works carried out by the Bank and exhorted the borrowers to utilise the loans for the purpose for which they are granted and stand by the bank to implement the Government's cherished objectives by promptly repaying the loans, before the bank officials approach them for repayment.

The Cell will concentrate on assisting more and more agriculturalists, small scale industries and economically|socially weaker sections by increasing the command areas of the branch.

Upper Sindh Hydro Electric Project in J&K

THE PLANNING Commission has approved the Upper Sindh Hydro Electric Project Stage II (2 X 35 MW) in Jammu and Kashmir.

The project costing Rs. 75.45 crores will afford an annual generation of energy of 355 Gwh in a 90 per cent dependable year.

Central Aid for Rural Drinking Water to three States

THE MINISTRY OF WORKS AND HOUSING has released a further amount of Rs. 446.71 lakhs to three States for execution of schemes under the Centrally Sponsored Accelerated Rural Water Supply Programme. This release represents the balance of grants-in-aid due to these States for 1983-84. This release covers Assam (Rs. 242.71 lakhs), Karnataka (Rs. 202 lakhs) and Haryana (Rs. 2 lakhs).

Gold Medals for BHEL apprentices

Two apprentices of BHEL's Hardwar Plant have bagged President's Gold Medals. The apprentices S|Shri R. K. Gupta and Ashok Kumar have been awarded in the Moulding and Fitting Trades respectively. They topped in 30th All India Skill Competition for Apprentices held at Calcutta, Kanpur and Bombay.

The award consists of a Gold Medal, a cash prize of Rs. 5000 and a tool kit each. It also includes an All India tour to important centres in the conutry.

Safety Award for Nangal Fertilizer

THE NANGAL UNIT of the National Fertilizers Limited has been awarded the Running Trophy by the Punjab Government for its largest accident—free period working during the year 1981. The factory worked for 3.84 million man-hours without a lost time accident during the period.

The Nangal Fertilizer Factory has bagged a large number of International, National and State Safety Awards for its outstanding safety performance since it went into production.

PAU Engineers Develop Now Sprayer Attachment

AFTER INTENSIVE field experiments and modification on tractor-drawn cotton sprayer. Dr. L. N. Shukla, Dr. S. K. Tandon and Dr. K. S. Sodhi of the Department of Farm Power & Machinery of the Punjab Agricultural University have developed a simple attachment for the rear tractor tyre mud guards that eliminates damage to the side rows of the cotton crop.

According to these engineers, the low yield of cotton in Punjab can be attributed to ineffective disease control by manually operated knapsack sprayer. They are confident that a tractor-drawn sprayer with uniform flow through nozzles and filled with this modification can be used for uniform spraying on the crop even at the later stage of growth resulting in better yield.

Remotest and the most progressive

IN NOVEMBER last the State Bank of India, Rateypani branch organised the 26th Credit Camp, at which DRI loans upto Rs. 1.08 lakhs were given to small and marginal farmers and to small traders. Knitting machines were given to women trained earlier in working on such machines.

Rateypani is one of the remotest villages of South Sikkim. But it is very progressive and has ambitious plans to become model village. It already has a dispensary and a co-operative store.

4.27 lakh jobless seek bank loans

MORE THAN 4.27 lakh unemployed educated youths had applied for bank loans till December-end under the self-employment scheme announced by the Prime Minister, Mrs. Indira Gandhi, on the independence day last year.

The district industries centres have already recommended cases of more than 40,000 to banks for granting loans totalling Rs. 55 crores.

The Industries Minister, Shri Narain Datt Tiwari, reviewed implementation of the scheme with the senior officials of his Ministry, the Reserve Bank and the department of banking in New Delhi recently.

The meeting was told that loans had been given only in 2,748 cases amounting to Rs. 4.56 crores as against the target of helping out 2.50 lakh youths by March-end.

The target of providing self-employment opportunities to 2.50 lakh youth by March-end is likely to be achieved.

The Reserve Bank representatives disclosed that the amount earmarked for the scheme has been raised from Rs. 160 crores to Rs. 325 crores.

IFFCO Bags National Award

The Indian Farmers Fertiliser Cooperative Ltd. (IFFCO) bagged the first prize from the Fertilizer Association of India for outstanding producion performance and highest capacity utilisation by its ammonia-urea Kalol Plant in Gujarat State.

This is the second successive year that IFFCO Kalol Plant has wrested this coveted award. IFFCO also received the first prize for best productivity performance among fertiliser industry for the productivity year 1982 from the National Productivity Council. IFFCO's Kalol Plant has emerged as one of the best ammonia-urea plants in the world.

(Continued from page 12)

other sectoral programmes in addition to the existing programmes. The investment in these sector outside the plan is also to be stepped up. Priorities may have to be fixed for the expansion of each of the sectoral programmes.

Priority for completion of spillover works

Before deciding about the quantum of investment required for the Seventh Plan, it is necessary to arrive at the resource position. The plan may have to give importance to the maintenance of the assets already created. If there is no proper maintenance, the expenditure incurred will be a waste. Such of the schemes which have outlived their utility may have to be discontinued. Priority is to be given for the completion of the spillover works. Once the size of the plan is determined, full amount required for completion of on-going schemes is to be made.

In the field of agriculture, the dry land agriculture programme has to be taken up on a larger scale. It is more so especially in the drought prone Areas. The outlay for Integrated Rural Development Programme is to be enhanced substantially. The institutional finance is to be mobilised on a larger scale and it is to be ensured that credit flows to every potentially viable scheme which would benefit the poorest sections of the community. The small farmers should not be selected at the cost of the landless labourers who are below the poverty line. There is the need for proper identification of the beneficiaries and continuous monitoring. All out efforts have to be made to correct the regional imbalances. There should be proper coherence in the implementation of the various rural development programmes.

Priority is to be given for minor irrigation works as these works would give quick results. Greater importance should be given for additional resource mobilisation. An overall integrated view of industrialisation is necessary. The industrial capacity is to be utilised to the maximum extent. Emphasis should be given for growth of electronic industries which create employment opportunities for the educated unemployed. Khadi and village industries and handloom are to be taken up on a larger scale. More emphasis needs to be laid on development of power. Programmes aimed at providing basic amenities to rural poor should receive more attention.

Economic growth and social justice will continue to be the major objectives and the strategies of maximising production and reducing the incidence of poverty and unmployment will continue to be there. The new strategy may have to be based on the resource position and also with a view to change the structure of the economy for the benefit of the poor. □

BOOK

Ranade on Economics

Essays on Indian Economics; (A collection of Essays and Speeches) by M. G. Ranade: Publications Division, Ministry of Information and Broadcasting New Delhi pp. 119; Rs. 10.

THE volume is the revised edition of the original published as early as 1898 by a private publisher. The essays and speeches refer to a state of economic affairs which existed almost a hundred years back. Some of them e.g. Emancipation of Serfs in Russia, reflecting a situation obtaining far earlier than that are completely out of place and wide off the mark at the present turn of the century.

Even though much water has flowed down the stream of time and international economic scene has undergone tremendous changes of thought and practice (India being no exception) the students of modern political economy of India may find in these write-ups some threads of relevance to strike a comparative basis for appreciating the current economic problems of India. With due regard to the none too apparent considerations leading to the bringing out of this book, one cannot escape the feeling that a book based upon, the current Indian and international scene of political economy, from the pens of specialists in the field would have met the ends of the endeavour to all intents and purposes.

As a simple paper-back of small price affording a readable back drop of the political economy of Colonial India, the volume may doubtless draw readership to an extent. It is deemed necessary to appreciate the rung of the ladder where our economy has reached in the wake of our plans and programmes implemented after attainment of independence.

R. P. Rabi

Disciplinary Action

Guide to Disciplinary Action by S. K. Datta, Published by Bank Training College, R.B.I. Bombay pp. 162 Rs. 10.

IN THE aftermath of Industrial Revolution, the world has witnessed an era of unprecedented expansion in all fields of activities. Numerous industries have sprung up, swelling up the work force. With diametrically opposite views held by management and labour, frictions are inevitable. The book thus begins with definition of discipline and how it functions as a code of conduct in offices and factories. Author has stressed the positive aspect of discipline and the way it should be viewed by all involved. The manner in which disciplinary proceedings are conducted has been lucidly explained with emphasis on principle of natural justice.

The chapter describing criminal proceedings in a Court of Law and departmental action for the same offence of indiscipline and how different verdicts could emerge is quite informative. The process of building up the case, conducting the enquiry and writing up the report has been explained step by step. As Government servants and those employed in public sector undertakings form a sizeable part of the work force in this country, the author has rightly added chapters on inquiry against government servants who had committed acts of indiscipline. The aura of mystery surrounding the vigilance commission the investigative wing of Government dealing with corruption in high places, which is another form of indiscipline has been dispelled by a good and detailed description of modus operandi of the organisation.

In a short book, the author has covered a wide field and has shed much light on the subject which is essentially complex as it deals with human behaviour. What makes the book more unique is the citation of numerous Court cases through most of the chapters interpreting specific points. Besides being useful for conducting disciplinary enquiries in industrial establishments, banks etc., it will be of immense assistance to people charged with indiscipline for putting up a beter defence. For the price at which it is offered to public, it contains a wealth of information on the subject and is a good preposition. It would be an useful addition to the personnel management division of all enterprises and offices.

D. P. Rangan

Iron Man Speaks

For A United India; Speeches of Sardar Patel—1947—49; Publications Division, Ministry of Information and Broadcasting, New Delhi; PP. 154; Rs. 16.00.

THE IRON-MAN, during India's struggle for freedom, was accepted by the British as a leader who always meant what he said and who invariably did what he meant. Naturally, after attainment of independence, entrusted with the internal affairs of the country, he had a vital role to play and the charisma of his rough exterior and the profundity of his heart of gold both come to their own to make him stand out as an administrator and a national integrator, par excellence.

The great veteran's speeches, enshrined in the volume under review, speak for the man and his mettle in no uncertain terms. The brief period of 1947 to 1950 was significantly long enough as the nation's problems were many and he showed his inherent verve to handle them with a measure of success rarely known in the history of modern democratic nations.

The speeches have been sensibly grouped under broad headlines like : States, Communal Harmony, Time for Consolidation, To Defence Forces and Miscellaneous, To Commemsorate in the right perspective the invulnerable versatility of India's political giant who was as solid as a rock in his convictions and as mellow as a flower in his humane qualities. A true Gandhian, a true ruler and a true servant of the people, all put in one, he had always his shrewd fingers on the nation's pulse which he overly felt and did his best to regulate

its beats for the health of its future. His simple prose of ordinary eloquence too natural to evade direct effect, always penetrated the ears down to the heart of his listeners.

A well edited and exquisitely produced volume for a small price amounts to a befitting tribute to that peerless hero of India whose valuable utterances varily described to be made handy to the readers of ordinary means.

Badli Vidyarthy

Area Planning

Area Planning : Precepts & Practices by Shreekant Sambrani and K. R. Pichholiya, Centre for Management in Agriculture, Indian Institute of Management Ahmedabad (CMA Monograph No. 90).

The Basic Axiom in all planning exercise is the resources are unevenly distributed and competing claims require different resource intensities. Hence meaningful planning comprises allocation of resources, not only among competing claims but competing regions. The emphasis on balanced regional development and the concomitant strategies of area planning are steps in this direction.

The monograph states the need for area planning, makes a brief review of the state of the art, and mentions in detail some area-specific programmes like the Drought Prone Areas Programme in Anantapur, A.P. of (1973-74) the Musahri Project in Muzaffarpur, Bihar (1971), Ialala Project in Gujarat and the planning for Panchmahals, Gujarat. The Panchmahal plan was part of the study taken up earlier by the Institute on dimensions of poverty.

The work under review states the objective of area planning and considers how effectively the different plans mentioned above have been drawn up. It deals with various issues that matter in drawing up area plans and emphasises the need for flexibility and decentralization of planning at district and block levels which could take care of local needs, and resources.

Though "area planning" is nothing new, there is something novel in the way, the issues have been presented in this work. However, one cannot fail to observe that in Chapter 3, the book brings out the improvement in thinking of the successive plans with reference to area planning, and yet in the same breath, states that "there is no conceptual advancement right from 1951" in this regard. The fact is that each plan aimed at a more incisive approach to the problem in terms of strategies and not merely in terms of concept. It is not without reason that the different area planning exercises—resource-based Command Area Programmes, people's need based Marginal Farmers Development Agency and Small Farmers Development Agency, and the Drought Prone Area Programme and the Intensive Rural Development Programme (IRDP) and the Minimum Needs Programme (MNP) have come to stay. In addition, the usefulness of the study could have been increased had the examination of the different projects not been confined only to their preparation but extended to the implementation so that the need of the areas and the results of "area planning" exercises are brought in clear focus.

R. C. Srinivasan

Indian Lac Industry

Dependence and Dominance, by Dr. Kamal Nayan Kabra, published by the Indian Institute of Public Administration New Delhi, 1983. Page 196. Price Rs. 100/-.

MAKING PROPER and productive use of natural resources like lac, a versatile industrial intermediate goods and a unique natural resin, for fostering development, particularly of the weaker sections, is the nub of the book under review and Prof. Kabra has made a painstaking research to explore the mechanism of the Indian lac industry.

The book puts across it points without mincing words by stating that primary produces like small farmers and collectors of forest produce not only suffer from low productivity but are also denied a fair share of their poor productivity. There exists clear patterns of dependence of income and employment from lac for the huge body of growers on the dominance in processing and exports exercised by a few modernised processors and exporters. Pointing out that the dominance of the entire lac based economic activities by a few shellac manufacturer-exporters has led to low returns for the growers with the attendant influence of fluctuating demand and supply relationship, Prof. Kabra recommends that monopoly of procurement by government agencies is the only way out if the intention is to ensure stable and reasonable prices to the growers.

To wreck the dependence dominance syndrome between the lac growers and small number of merchant manufacturers, the author advocates a radical remedy by way of bringing the organised, mechanical segment of shellac industry (which is engaged in exports) under a socially-responsive public sector. Besides, a large number of already known uses of lac should be given actual industrial application so as to popularise this forest based vital resource.

The book, disproportionate to its bloated cost, does not contain current statistics concerning the idigenous lac industry and whatever figures it rolls out throughout the book relate only upto 1978 and this is a serious lapse. The author would have done a good service to readers had he taken pains to portray the existing trends in the lac industry in recent years and this lacuna in compilation of current trends leaves the readers with a sense of disappointment especially considering the exorbitant cost of the book.

G. Srinivasan

Welfare village rebatiraman

ALL IS WELL with the "Welfare Village". Nobody is ill in Rebatiraman, a small hamlet on the banks of river Mangla. It is just two kilometres away from Puri, the abode of Lord Jagannath.

Fifty two families live there. Most of them belong to Scheduled Castes, known a Domas and Bhois.

The villagers were fatalistically resigned to the poverty, filth and disease into which they were born. Liqueur virtually was their staple diet. Primitive living conditions and excessive drinking had spoiled the health of almost everyman, woman and child in the village. It could not have been possible to detect a more backward/village anywhere in India.

The concept of the "Welfare Village" a part of the overall strategy of the Government of India's vision, "Health for all by 2000 A.D.", came to the rescue of the village. It was selected as a model for a "Welfare Village".

Initially, the Puri Satya Sewa Samiti adopted the village. They organised classes for the children and religious discourses Slowly, the drinking habit of the people of the village waned.

A Mahila Samiti was organised and the Block Development authorities entrusted it with the job of feeding 50 children who were suffering from malnutrition. The National Feeding Programme to provide nutritional aid to nursing mothers and pregnant women was also implemented there.

REMARKABLE ACHIEVEMENT

Ten poor families were identified under the Intensive Rural Development Programme and they were given aid to purchase sheep units. Six women were given training to make artefacts from palm leaves, a raw material available in plenty there. An Industrial Cooperative Society was set up in the village to help the artisans.

The most remarkable achievement was in the field of health. In spite of the nearby Mangla River, clean drinking water was not available to the villagers. Two tubewells were dug and the problem was easily solved.

Chandarpur Primary Health Centre and the District Family Welfare Review Committee took the village under their wings. A thorough socio-medical survey was conducted and all the 472 villagers were medically examined. Nutritional aid and immunisation were provided to those who needed it. It was found that only five villagers suffered from diseases that required prolonged treatment. Two were filarial cases and three were leprosy patients. They are now receiving proper treatment and recovering.

Two trench latrines and three soak pits were dug to improve sanitary conditions.

All eligible couples in the village, amounting to 52, have been persuaded to accept the small family norm.

Today, no one is sick in Rebatiraman. None is unemployed. The village is still a village, but it does not stink with filth and liqueur. Coordinated effort through various programmes has succeeded in making it India's first "Welfare Village", where instant solutions are available to any problem that might arise.

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Fuel Saving Pantnagar Chulha

THE SCIENTISTS at the Department of Agricultural Engineering, College of Technology, Pantnagar (UP) have designed a Chulha which saves on fuel and does not pollute the kitchen with smoke. It is an improvisaton on the traditional Two-pot-hole chulha used in villages of Punjab and many other parts of North India.

The only improvisation is that the pot holes of the chulha, are circular and flat so that smoke and flame does not escape. This results in almost full utilization of heat, which reduces fuel consumption and cooking time. There is an opening at the end of the second mouth where a three-inch wide and 10–15 feet long drain-pipe is fitted vertically for discharging the smoke above the roof level. If a drum is fitted around the pipe and filled with water, then even the small heat, energy which escapes through the chimney-pipe can also be utilized and you get hot water for washing purposes at no extra cost.

SAVING TIME AND ENERGY

According to housewives of Shantipuri village near Pantnagar University, the Pantnagar chulhas consume almost 50 per cent less fire-wood and take 40 to 50 per cent less time in cooking. A house wife can make the chulha herself in about one hour at no cost except for making an iron grate for fitting at the base of the first pot-hole and on which wood is burnt. It can be made by the village ironsmith for about Rs. 5/- The only costly item is the drain pipe used for discharging the smoke in the sky.

The Government, with the help of G.B Pant University of Agriculture and Technology have selected 40 villages in the Terai area of Uttar Pradesh for making them "Smokeless villages". About 5,000 chulhas will be constructed in these villages under the Integrated Rural Development Programme in the next 3-4 months.

Keeping in view that nearly 150 million tonnes of fire-wood are burnt for cooking in Indian villages, popularisation of such new energy saving chulhas can help in saving thousands of trees from being felled and thereby disturbing the eco-system every year. □

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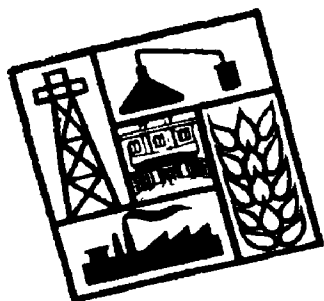
Scientific Teaching or Preaching !

VOL. 28 NO. 4

MARCH 1—15, 1984 □ RUPEES 1

Challenges of a changing world

NEXT ISSUE

Industrial pollut
control, constr
and conflicts

Irrigation through solar power

HERMA is one of the few villages in the country that can boast of an irrigation system worked by solar energy obtained through photo-voltaic cells.

A tribal village, under Bisalgarh Block in West Tripura District, Tripura, Herma has a traditionally agricultural community. But their little farms used to be always at the mercy of the vagrant monsoons.

The North Eastern Council drew up a plan for a demonstration project for utilisation of solar energy for irrigation in Herma.

It was implemented in 1983 to cover a small farm area of 10 hectares. The equipment has been giving satisfactory service ever since.

Moreover, the surplus power available from the unit now lights the village market, Panchayat office and Adult Education Centre.

Under the aegis of the North Eastern Council, some experimental bio-gas plants have also been commissioned in the village to meet the energy requirements of the people.

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Our Contributors

Smt. Indira Gandhi—Prime Minister of India Anita S. Rattan and Suresh I. S. Rattan—Freelance journalist and biologist respectively ; Arvind P. Dave—Lecturer, S. S. P. Jain Arts and Commerce College Dharangadhra (Gujarat); Hari Dev Goyal—Professor of Economics, Lal Bahadur National Academy of Administration, Mussoorie; G. N. Seetharam—Faculty Member, Institute of Public Enterprise, Hyderabad Madan Kumar Srivastav—Research scholor, Deptt. of Commerce, Varanasi (U.P.), Kuwar Jalees—School of Environment Science, JNU, New Delhi; C. B. Padmanabhan—Educationist, New Delhi; Sundeep Khanna—Dy. Secretary, Union Ministry of Home Affairs, New Delhi; T. S. Ramachandran—Senior Economist CADA, Bilaspur (M.P.); Dr. R. Tandon—Professor of Cardiology, AIIMS, New Delhi; and Dr. Gaura Hiral—Lal Bhai Group Rural Development Fund Sabarmati, Ahmedabad.

Scientific teaching or preaching

Anita S. Rattan and Suresh I. S. Rattan

Although our country is the third biggest source of scientific manpower, scientific temper is conspicuously missing in our society. Discussing the reasons for the apparent failure of science in India, the authors feel that the continuation of preaching instead of teaching in our education system is an important reason.

IT SEEMS THAT most of us in our country still support and believe in the 'Guru-Chela Parampara'. This tradition is based on the assumption that the flow of knowledge can only be trickled down from the edifice of a higher to a lower state. There is no logical reason to accept this assumption as valid. Knowledge is unlike any packets of energy which obey certain laws of physics. Exchange of knowledge is a social phenomenon and must be analysed in a social context.

The 'guru-chela parampara' implies an inherent hierarchy. This tradition also presupposes a total acceptance of ideas from a guru by a disciple without the right of questioning and critical evaluation. Such an approach might have had some justification in the ancient times when education was primarily based on religious dictum and restricted to a privileged class. After all, you cannot question and doubt the basic premises of believing in the existence of some metaphysical entity! Because if you do, the whole castle of religion collapses. Therefore, the tradition of one-way flow of information was the most suited to and compatible with the absolute authority of religion and the rulers. We identify this tradition as the tradition of preaching. Teaching differs from preaching, in the sense that it is the information transfer and an exchange of ideas among equals, although one of them, who leads the group, is slightly more mature and experienced. However, in our country the tradition of preaching was imposed upon the teaching of even science subjects, which essentially deal with the physical and not meta-physical.

Preaching in science

This extension of religious preaching to the modern education system, particularly the science, has been deliberate by the powers. This suits them too. A subservient, obedient and uncritical educated labour is most useful to promote the ideology of those in power. Although India is the third biggest source of scientific man-power, scientific temper is conspicuously missing in our society. There are many reasons for the apparent failure of science in India to develop scientific approach to life even among students of science. One of the important reasons is the continuation of preaching instead of teaching in our education system.

The consequences of the tradition of preaching have been too serious. Most of what happens in our classrooms and research laboratories remains untold. At school and college level whole stress of the so-called teaching is to passively pass on scientific facts without making any effort to encourage and develop critical faculties in students. Our examination system is the living proof of a disinterested student vomiting out the information received from a disinterested teacher.

Evidence at large shows that most of our teachers become static after securing permanent jobs and take no more interest either in being uptodate with their subject or help to create students' interest in the subject. Why our teachers are disinterested and alienated from academics is a complex issue linked to our economic and poliical structure which does not offer anything to look forward to and we do not intend to discuss that aspect here. Our contention

(Contd. on page 7)

Challenges of a changing world

Smt. Indira Gandhi

Educational institutions and non-institutionalized modes of information transfer, like the mass media, can do a great deal to deepen the social concerns. Urging the need for our educational system preparing young people to be more responsible and resourceful, the Prime Minister has said that it should take note of the problems, needs and aspirations of youth as well as the challenges of a changing world.

IF THE PAST gives us pride, it also bequeaths problems. In India today we are busy remedying the injustices of the ancient and more recent past, while we prepare for the growing challenges of the future. This we are trying to do, not through ad hoc decisions, but in a systematic way, through planned development.

Planning has led to many solid achievements—especially the building of a firm foundation for self-reliant technological growth. But growth and development also create dissatisfaction and impatience for faster progress. Development runs a tortoise-and-hare race with rising expectations.

Traditional holders of authority regard any reform as a threat to their privileges. They should realize that although they may lose some of their power or property, it is only in change and in moving with the times that they themselves can be secure.

Excernts from the speech made by the Prime Minister Smt. Indira Gandhi at the Silver Jubilee Celebrations of the A. N. Sinha, Institute of Social Studies, Patna on 4-1-1984.

Nine-tenths of resources from national savings

It is difficult for most people to visualise the extraordinary sums of money involved in creating one unit of employment in modern technology. We have spent Rs. 1,450 million on planning in 33 years—but when we take into account our exploding population, this works out to a very meagre figure per person per week. Foreigners speak of the large amount of aid. Actually, the per capita aid we have received in 30 years is a fraction of that given to some other countries. Some people seem to think that we are completely dependent on it. They forget, or do not know, that nine-tenths of all the resources needed for development came from internal savings and for the most part these were the savings not of our rich but of our poor.

Even with these inadequate investments we could perhaps have done better had we had a more efficient administration. It wasn't easy to shake the bureaucracy's concept that administration meant merely keeping law and order. It took time to acquire experience of development administration. I am still unsatisfied with their level of awareness of, and responsiveness to, the public they serve. More social scientists have been brought in, more scientists and technocrats inducted. Unfortunately, most of them get submerged in the stream. We lack the imaginative, forward-looking outlook which sees issues in their totality and with a sense of urgency. The tendency is to justify delay, inaction or wrong action rather than to find ways of getting on with the job and producing results.

Building the national image

In most countries whatever their systems, there is a continuous effort at building the national image, not merely by the Government but different organizations and even those opposed to the Government of the time, as well most of the press and media.

Communist countries are castigated for what is called brain-washing. But in other countries also, including the United States, there is propaganda, it may be subtle or obvious but it is equally insistent, for building confidence in their country and system. Our own public opinion is inadequately educated as regards our ancient culture, our unique struggle for freedom and our present process of development and its achievements, nor is it alive to the dangers we face.

Agitations, usually turning to violence, are launched. Everywhere there is demand for large and prestigious projects rather than on programmes best suited to the area. The emphasis should be on primary and secondary education, but many legislators and citizens' committees prefer medical and engineering colleges, and post-graduate departments without basic human and teaching equipment. Sectarian and parochial demands, often of short-term benefit, take precedence over the larger national interest which alone can serve and save various sections.

Planning successful

In spite of all this, planning in India has been successful. Those who ridiculed it and compared us unfavourably with some other countries are now reluctantly revising their opinion.

Some aspects of our development cause concern—regional imbalances, the mismatch between social change and economic development, the rapid denudation of forest wealth and the mounting problems of urbanization. Industrial development statistic show that many districts do not have modern industry worth the name. Initially, there were reasons for this, but we are now doing all we can to improve the situation. I have had maps prepared and we are consciously directing industrial location and investment to backward areas.

A Nutrition Foundation study has shown that the birth rate and infant mortality rate are much lower in Kerala than in Punjab, because of higher literacy among Kerala women. But the nutrition level of children in Kerala is much lower than in Punjab. Here is an example that enduring development needs balanced emphasis on production and human development. From Jawaharlal Nehru's time we have been conscious of the economic, social and political factors involved in the process of development. Our planning has included not only economic programmes to improve production and productivity but also special programmes for backward regions, groups of underpriviledged people, the spread of education, health and welfare, agrarian and organizational reforms and many more. But imbalances persist. We have to pursue more vigorously the basic minimum needs programme.

Benefits not shared equally

Our grain production has so far kept ahead of the population growth. Yet the benefits of agricultural development are not shared equally by different groups and regions. Our land reforms are not insignificant, yet there are areas where they have not been prope ly implemented. In this, the courts and vested int rests are major obstructions. The new technolog of production calls for a larger resources base th small farmers can afford, thus depriving them of i benefits. In industry, neither managers nor worke have shown the will and discipline to increase pro ductivity, by taking advantage of investments. Popu lation growth has generated unprecedented pressure on all our natural resources. The expansion of edu cation and communication has sharpened women' political and economic awareness, though family an social values lag behind the times.

Whenever such disparities are not remedied, th people's creative energy is wasted. In today's inter national economic situation, we can accelerate th growth process only by improving the production ca pacity of capital, labour, land and natural resources One way of doing so is to select appropriate technology for any productive process. Small and marginal farmers may have to look towards greater an more efficient use of locally available bio-fertilizer and manures, rather than adopting the package o practices which big farmers follow. Energy is i critically short supply, affecting the poor in rural as well as urban areas. Social forestry and the use o biogas need changes in social practices. We must use every bit of what lies around us. Even the ubiquitous water hyacinth and other such plants have value.

Critical examination of diverse impact

Educational institutions and non-institutionalized modes of information transfer, like the mass media, can do a great deal to deepen these social concerns. Our educational system must prepare our young people to be more responsible and resourceful. It must take note of the problems, needs and aspirations of youth as well as the challenges of a changing world. It should teach our young people to see regional problems in the national context and national problems in the international perspective. It should inculcate moral and social values, attitudes of non-violence and tolerance. The worth of a civilization is measured by its appreciation of excellence and beauty. Institutes can help by critically examining the diverse impact of our economic actions. Multi-disciplinary research will strengthen the analytical base of our knowledge, and draw the attention of planners and politicians to the linkages in social, economic and political changes. I am told that you have in fact undertaken several studies which have been highly useful to our planners.

The Charter of UNESCO states that wars are born in the minds of men. The Pope in a letter to me and other Heads of Government, has written that wars are born in the hearts of men. My own view is that it is the division between the mind and the heart that is at the base of our malaise—science without spirituality, thought without emotion, rationality without intution. All these must be lended for a holistic view and for action that is oriented towards the total

good. Jonas Salk suggests that "there is an evolutionary remedy to the human predicament—one that seems to be built into our genius...... We may indeed possess the capacity to evolve through the present stage into a higher stage of development. Sri Aurobindo preached just that. The difference is that whereas Jonas Salk maintains "that this will occur through the evolution of the human mind, which will provide the cure rather than remain the cause of the disease that now afflicts us", Sri Aurobindo believed that only spiritual development could bring us to a higher consciousness. May I suggest that harmony between the two is the beginning of wisdom? I end with another quotation : "The hour is very late and the choice of good and evil knocks at our door." The responsibility lies with every citizen and especially with social scientists. I have faith not only in science but in the people of India. □

(*Continued from page* 4)

is that if the tradition of preaching continues, the future generation of scientists being trained in our institutes will only be obedient machines instead of original thinkers capable of shaping a better society.

The enormous power in the hands of teachers under the disguise of *'guru-chela parampara'* has proved to be very harmful. Many of our senior scientists, who possess real power and authority, are nothing less than feudal lords. For such bosses a young researcher is only a tool to generate favourable data. In such research centres no training is given to a student to develop original thinking, rational attitude or capacity to evaluate information critically. Even a research problem is allotted not on the basis of interest of a student but only to fit into the running schemes of the boss' work. Supervisors of such research centres consider themselves as the brains whereas a student for them is only a muscle to be used. In addition to this, many scientists impose their egos, out-dated information, ignorance and in numerous cases their lusts onto the students. There are instances when students, whose careers were destroyed by their supervisors, either committed suicide or tried to kill their supervisors due to humiliation they received from them.

All this appears very pessimistic and horrifying particularly because we have not talked about those scientists who are genuinely humane, rational, scientific and good teachers. But are not those qualities the pre-requisites of being a scientist anyway? That is the minimum one expects of teachers and scientists. We do not know how that can be achieved without a strong personal commitment on the part of teachers and an appropriate political structure behind it. Teachers usually complain of disinterest, alienation and unrest among students. Both students and teachers see no hope of future.

Students' allegation

In a preliminary survey done by us of many research students in biology, life sciences, botany and zoology, we found that more than 98 per cent of those students were in research not of their free will but only due to some kind of 'accident'. Most of these students would love to have a better alternative which, in most of the cases, is a secure job in banking, commerce and the civil services. This 'accident in education' can usually be traced back to early school education when particular subjects are chosen for the student not by him|herself but by parents for whom social and economic status attaching a subject carries more importance than anything else. At later stages this imposition keeps on becoming tighter due to lack of any choice or opportunity throughout the education period. Science education offers even less choice for a change. Added to this is the hopelessness of future which makes a student restless and disinterested. The situation is worsened due to the fact that the hierarchy of teachers and a lack of communication between teachers and student has created mutual distrust among them. The *'guru-chela parampara'* is certainly one of the contributors towards this. No one appears willing to change this. Historically, whenever and wherever the absolute authority of teachers has been challenged, this was followed by either a complete crushing of the student movement or an indefinite closure of the university concerned. Further, in the name of respect for elders, students many times have to fulfil useless academic and unacademic obligations. Added to this, classroom rituals symbolising the authority of a teacher have created an unnecessary hierarchy and broken all channels of human communication.

We need active teaching of science subjects with social awareness. Science learnt passively through preaching has to struggle against non-scientific styles of living at home which are bound by tradition, religion and superstitions. In the absence of real teaching, the scientific facts instead of penetrating our personalities, get diluted out in our daily lives.

It may be argued that it is impossible to teach and adapt a new approach in science teaching in our country since most of the available teachers here are also the product of an accident of education supplemented with a passive, indifferent and feudal preaching. But we cannot use this excuse to continue and perpetuate this vicious cycle until a complete change occurs in society. We are hopeful that those can break this cycle who, despite being products of a decadent system, are aware of the real problems and their possible solutions. This article is an attempt to initiate discussion which, in turn, may build an active minority to make a far-reaching impact. □

The education of discord....?

Arvind P. Dave

Our formal education is biased towards urban culture as there is no substantial representation in the policy making bodies from the rural areas of those who are born and brought up in the villages. The author says that this has widened the split between them. In his opinion, the stress should be given on the effective rural education, arranging the seasonal time-table.

OUR EDUCATION SYSTEM cannot do the expected job, till our planners and the Government do not decide to concentrate whole-heartedly on the causes and the remedies of our present education, along with the maximum financial resources and make changes in its state of affairs in administration and the recruitment system of the teaching and non-teaching staff for the educational institutions and above all it must be made free from the foreign colours of every sort. Here lies the malady of our education's ineffectiveness at all levels, the thought which we have never brooded of so far.

Besides, without proper check on the system, I am doubtful whether the teachers pour forth words of wisdom and students repeat sentences in the remotest schools, and the elitist schooling has widened the gap between the rural and the urban culture as a whole and the educational planning has benefited only the urbanites rather than the ruralites. Our necessity is to bring rural and urban cultures' amalgamation at one point for the quick integration, preciously required by us all. Our education has grossly failed to perform this job.

Biased towards urban culture

Our formal education is biased towards our urban culture as there is no substantial representation in the policy making bodies from the rural areas who are born and brought up in villages. This has widened the split between them. This can only be detected in the reflection of our children's literature published. In my opinion real stress should be given on the effective rural education, arranging the seasonal time-table.

The reason for not intellectually acquiring of knowledge on the part of the pupils is solely because our teachers are not resourceful and do not know, how to display their materials with practical application of the text material in everyday life. The same sort of plight is of our college students in post-graduate classes even ......'

This is partly because our primaries and secondaries and even our colleges are not having full fledged libraries where the askance minds can find the subject reference materials there from the sympathetic librarians. So the students turn to reading notes and bazar guides as there is no one to guide them for the reference books and the related extended reading materials. Besides this requires the formation of habit on the part of pupils, the habit which should have been formed right from the primaries. This facility they do not find there.

Our examination system has crumbled only because we have started giving the students a fixed syllabi at all levels and the format of the question papers i.e. model question papers. This has worsened the process of the education.

Before Independence

Just before 1947, the students had to prepare extensively and had to go through the text books

and reference books prescribed in each subject. But the set pattern of the model question papers have brought in bazar notes, guides and tuitions' malady. Besides, the book banks and the scholarships at all levels have worsened the situation without proper checks. Because of this the students do not purchase a single text book and await for book bank distributions as late as 2-3 months after opening of the institutions. So the question should be based on formal and non-formal education from the text books taught in the classrooms.

Hence the set pattern of question papers and limited range of text book material are responsible for the short cuts and guides and in most cases the teachers themselves use these materials in the class rooms! Besides the credit for the failure of semester system, continued evaluation, internal assessment, malady of the objective type of questions goes to (1) those unresourceful, uninterested and lazy teachers (2) defective syllabi, (3) lack of *library facilities, (4) style of question papers and* (5) non-functioning of question bank. Above all, I firmly believe that we have failed to establish and its strict maintenance of progress reports of each student at all levels through educatinal and vocational guidance centres in each school and aptitudinal, I.Q., and adjustment tests to divert the average lot right from the 8th, 9th, and 10th classes to the vocational courses and the rest cream may only be not allowed to enter into the higher studies according to their aptitudes with full guidance and financial aid from the so formed body of the teachers and counsellors.

Recruitment commission for teachers

Besides, the recruitment of the teachers should be through quite a separate three-tier highly capable body like the Recruitment Commission, in each state and they should ensure the recruitment through a rigid I.Q., adjustment and aptitude tests and a practical test in the class room. This body should also be made responsible for the quick transfers of the teaching and non-teaching staff at all levels. The recruited teacher should undergo specialised training and if he passes it should only be allowed to enter the class room. These points should be effectively carried out by the body for the recruitment. Besides, the in-service refresher courses should also be organised at regular intervals in each subject. The promotions and increments should be linked with the teachers' research work and creative production in their respective field.

For the rural exploited majority of the students, the government should provide all the necessary help taking into account the children's and their parents' farm labour income, so that they could send their children to the schools providing them their Children's income from the farm labour as aid or scholarships. But this should be properly checked by the sound body, otherwise the aid will prove unproductive as the cash aids given for schooling purpose are likely to be pocketed by the children's parents to supplement the income. As for the adult education, major centres are running on papers and money goes waste. The government has not got proper check and such centres should be closed where they function on papers only.

Windows closed

Practically speaking all the windows are closed to our children's informal education except the schools and the school teachers because more and more parents are now being service or business minded and these children remain more with the schools and the school-teachers and hence all the primaries and the secondaries must be well equipped so that the children should be kept engaged for the whole time only to form habits for the libraries and creative work and sports and games under strict supervision if we at all wish to eradicate violence and disturbances from our societies. This is the essential reform to sculpt our future generation to which none has paid any attention at any level, and cursory application and patch-work has worsened the situation in education.

The teachers training programme should be very rigid and disciplined and of two tier. Primarily, soon after their selection for training as a teacher they should be aptitudinally tested. Second time they should be specially tested when recruited and thereafter they *should be refreshed regularly. This training should* be broad-based in theory and practice in particular.

The education content and syllabi should enlighten, inform and make the students behave in a very reasoned way and the straight line teaching and completing courses should be done away with. This will automatically delink the degrees from the job requirements.

Pick up right sort of educators

If the first line of educators have vested interests the central and state governments should come forward to pick up the right and devoted educators for the competent advice from the second line of educators.

It is true that the curriculum should be continuously reviewed and revised. But these bodies are generally very small and by virtue of their seniority they stick to it without bringing any constructive changes. If they at all change it, that will be within their own vested interests over-looking the longer interest. In the school text book boards, those who have easy reach, get the appointments and stick there for their material gains ignoring the competent writers. Actually the government should make all these bodies free from the vested interests and they should also be checked up by the bodies of the auditors and advisory committees formed of the new generation of educators whose selection is not so very hard if we wish to bring effectiveness and newness in our education keeping in view our own basic cultural requirements. ☐

Indian Jute industry a story of struggle

Hari Dev Goyal

Jute industry occupies special importance in the economy of eastern region of India. It provides 30 per cent of the total employment in West Bengal registered factories. Besides, six million people derive their principal source of income in the tertiary and primary sectors from jute.

JUTE INDUSTRY is one of the few important factory industries which have origin in the 'fifties of the last century, i.e. period of the rise of modern industries in India. And few industries have passed through such sharp changes of fortune since partition of the country as jute textile industry. Yet it should be some proof of the Industry's resilience that it has not only survived the vicissitudes but continues to be a major traditional earner of foreign exchange. The relative importance of our export trade has, of course, declined as many new and important sources of external income have come up with the vast expansion and diversification of the industrial structure, but the amount of foreign exchange earned through jute has remained steadily substantial.

Employment potential

The jute industry occupies a place of special importance in the economy of the eastern region. In West Bengal it provides 30 per cent of the total employment in registered factories where alternative employment opportunities are limited. Besides factory employment, about six million persons have their principal source of income in the tertiary and primary sectors from jute which occupies an extremely important place in the states of the eastern region where it is grown and manufactured into products.

Because of the locational advantages, jute industry is highly localised in a small strip of land measuring about 100 kms. in length and only 3 kms. in breadth, lying along the bank of river Hooghly, upstream and downstream of Calcutta from Tribeni to Ulberia on the north bank of the river and from Hali Shahr to Birlapur on the South bank. The greatest concentration lies within a 25 kilometre belt extending from Rishra on the north bank to Naihati in the south. Important centres of the industry are Bally, Agarpara, Rishra, Titagarh, Serampore, Budge-Budge, Shibpur, Silkaria. Howrah, Shyamnagar, Bansberia, Kankinarah and Ulberia.

Struggle of the industry

This article attempts to tell the story of struggle of this traditional industry since 1947.

Partition of the country deprived the Indian jute mills of the sources of raw material as the bulk of the jute growing lands were in East Bengal. In 1947-48, 79 per cent of the total production of jute was in the areas which went to Pakistan. India was not producing at that time, even one fourth of the quantity of jute required by her jute mills. Stepping up of jute production, therefore, became an imperative necessity. An all-out attempt was made to increase production in the post-partition years. After years of sustained efforts India could become quantitatively self-sufficient in raw jute production in 1958-59. Though raw jute production in India has now increased to five times of the level in 1947-48, it has been subject to wide fluctuations due to price behaviour, imperfections in the marketing system and weather conditions in the jute growing States.

Indian jute industry manufactures jute fibre into three main categories of products, namely, sacking, hessian cloth and carpet backing. Sacks are used for storage and transport of a wide number of agricultural commodities such as food-grains, coffee, sugar, and as containers for chemicals, fertilizers, cement and salt. Hessian cloth is used in a

variety of industrial applications. Carpet backing is used as primary and secondary backing in the tufted carpets industry. Other jute products with a limited share in production are cotton bagging, wool-packs, dyed/printed hessian, laminated fabrics, etc.

Integrated units

It may be mentioned here that in Indian Jute Industry, every jute mill is an integrated unit and undertakes both spinning and weaving. The present installed capacity of the Indian Jute Industry is estimated around 13.20 lakhs tonnes per annum based on a certain product-mix which is in demand. There is scope for interchangeability of the spinning capacity between one output pattern and another depending on the profitability expectations and market conditions. Industry has sufficiently large-weaving capacity and is short of spinning and other back processing equipment. This situation has arisen because of neglect of rehabilitation and modernisation of the industry which is now overdue.

Production

Production of jute goods in recent years has been fluctuating from year to year largely in conformity with the change in demand pattern in the domestic and world markets and availability of raw jute. It can be seen from Table I that production of jute goods reached an all-time high level at 13 92 lakh tonnes in 1980-81 after 16 years. This level was marginally higher than the one reached in 1964-65 when the production was 13.20 lakh tonnes. The relative stagnation on the production front is attributable to the weakness in demand abroad and the inability of the industry, under mounting pressure of costs, to market its products in competition with synthetics and jute goods originating from other sources, principally Bangladesh.

Expansion of domestic market

As regards marketing of jute products at home, after attaining political independence, India embarked upon the path of planned development through Five Year Plans to solve her economic problems. As is natural, with the increase in production of packable commodities like foodgrains, cement, sugar, salt, flour, fertilizers etc. the demand for jute goods in the domestic market increased substantially. The internal consumption of jute goods has gone up significantly particularly over the last decade. It reached the level of 9.13 lakh tonnes during 1981-82 compared to 4 66 lakh tonnes during 1974-75 Table 2 shows the trend of jute goods consumption within the country and its share in total production. Average annual increase in consumption during the triennium ending in 1979-80 was 473 per cent over the annual average consumption in the triennium ending 1949-50. Consumption in 1982-83 was about six times that of in 1950-51 amounting to 73.3 per cent share of the production of jute goods. Expansion of the domestic market has helped the industry by providing a cushion as the Indian Jute Industry has lost her position of monopolist exporter of jute manufactures.

Exports

As regards export trade in the post-Partition period, India's exports of jute goods consisted mainly of sacking and hessian used for packaging and other uses in industry and transport sectors. In late fifties, there arose a demand for carpet backing cloth from USA where manufacturers of tufted carpets demanded jute backing to give strength and stability to their carpets and rugs. India grabbed this opportunity and installed broad-looms in the shortest possible period to produce carpet backing cloth for meeting the demand from the tufters in the United States. India supplied C.B. cloth from 1957-58 onwards, meeting upto 90 per cent of the requirements of this industry. So during the last two decades or so, the pattern of jute goods exports has changed noticeably. In 1964-65, hessian constituted more than half (50.5 per cent) of the total exports of jute goods, sacking accounted for 27.2 per cent, carpet backing 11.5 per cent and others 10.8 per cent. However, between 1964-65 and 1979-80, the share of carpet backing rose from 11.5 per cent to 29.2 per cent, while the share of sacking declined from 27.2 per cent to 11.5 per cent. The share of hessian which showed a declining trend till 1973-74 in which year it reached an all-time low of 39.5 per cent, has been increasing again since then and accounted for 52.8 per cent of jute goods exports in 1979-80. It is pertinent to note that the export of carpet backing, which reached a peak of 2.53 lakh tonnes in 1971-72, has been maintaining a declining trend since then. It was only 60,100 tonnes in 1980-81.

There have been substantial changes in the direction of jute goods exports also. Taking 1947-50 as the base period, two-third of Indian jute goods used to be exported to the developed countries and one-third to the developing countries in this period. During early fifties there were no exports to the Socialist Countries. Since early 1960's, picture changed with the emergence of socialist countries as importers of jute goods from India. Share of developed countries has always been substantial i.e. about two-third of our exports, sometimes being 70 per cent. During 1970's their share has ben reduced but still more than 50 per cent of jute goods are exported to these countries. Trade with developing countries of Asia Africa and Latin America upto 1960 was maintained at the level obtained immediately after partition of the country, i.e. one-third of the total exports. Since then it has been fluctuating between 9 per cent and 20 per cent of our exports. As regards trade with socialist countries, situation is very much encouraging as their share has been increasing gradually during the last two decades. Presently they are importing about one-third of India's exports of jute goods.

Various factors are responsible for this situation. Since late sixties, jute world market has been invaded by bulk handling techniques, consumer oriented packaging and synthetic substitutes. India exports as pointed out earlier more than 50 per cent of her exports of jute goods to the developed countries of the world. Analysis of two major markets—United States of America and European Economic Community—shows that primary jute carpets backing (PCB) has almost been replaced by synthetics reducing

the share of PCB from 80 per cent in 1968 to 4 per cent in 1982. Of course secondary jute carpet backing (SCB) is still holding on and erosion in its share is not that alarming. Reduction in jute carpet backing consumption in USA has occurred because prices of jute backing mostly ruled above those of synthetic backing. Moreover, in the case of uncertain supplies of jute goods from far off production centres, synthetic manufacturers could invest in and reap the benefit of Research and Development as well as market promotion programmes. So the competition from cheaper synthetic substitutes in the developed countries affected India's jute goods exports adversely. In EEC countries, besides price factor, protection policy which these countries followed in the form of tariff barriers and quota restrictions reduced exports of jute goods from India into this region.

International competition

Besides competition from synthetics, in 1950's Pakistan emerged as major competitor to Indian jute goods trade. Availability of better quality fibre, higher yield rates of raw jute, advantage of more productive modern manufacturing machinery installed in 1950s and 1960s, trade policies followed by the Government ousted India from many traditional markets and reduced her share in others. Tax-subsidy policies, Export-Bonus Scheme, devaluation of Takka, better credit facilities, concessional shipping freight and cash subsidy enabled Bangladesh to increase her exports to 38 per cent in 1979-82 from 4 per cent during 1955-57 by under-cutting massively the Indian prices.

Industry not in sound health

Health of the Indian Jute industry is not very sound. Extreme and frightening conclusions have been drawn by pessimists regarding the future of jute industry in the country. But we are of the firm view that the jute and jute industry certainly have a 'future' because of intrinsic competitiveness of jute. Endeavours are, of course, required in the direction of cost reduction, developing new products and markets and also for cooperative action at the international level.

Action suggested

To retain even the present share in the export market and have assured domestic market expanding with the industrialisation of the economy jute manufactures will have to be competitive pricewise and qualitywise with substitutes. Action on the following lines will be required during 1984-85 and the Seventh Plan period (1985—1990).

(i) Cost of raw jute constitutes about 60 per cent of the total cost of production of jute goods. So the price of raw jute has an important bearing on the competitiveness of jute goods. Without increasing the cost of this major input to the mill sector and at the same time for increasing the income of jute growers there is urgent need to increase yield rates, remove the imperfections in the existing marketing system, educate the farmers about grades of jute and provide them sufficient credit facilities Exploitation of jute sticks for commercial use in paper and rayon pulp industries should be started immediately.

(ii) Cost of labour is about 60 per cent of the cost of conversion which itself is about 40 per cent of the total cost of production. Presently labour and employer relation in this industry are far from satisfactory. Every year many disputes arise which result in strikes|lock-outs thereby bringing substantial loss not only to workers but also to factory owners and making goods dearsay. Better management-labour relations are a must for the survival of jute industry.

(iii) Most of the existing machinery in the jute industry was installed seventy to eighty years back. It is to a large extent worn out and obsolete with the result that production is inherently uneconomic and per unit cost is more than it is on modern machines as the case is with Bangladesh jute industry. Naturally modernisation is a must for the jute industry. Though the industry was made eligible for the Industrial Development Bank of India's Soft Loan Scheme and a sum of Rs. 250 crores was earmarked six years back for this industry, the actual disbursement has not been even Rs. 10 crores so far. Jute industrialists should discuss with the development banking authorities across the table for removal of all those conditions to which they are averse.

(iv) If the jute industry is to gain strength in the changed situation it must seek to improve its conventional products and also develop new products and outlets. The neglect of the vital R and D effort for many many years by the industry to bring about improved and diversified products is responsible for the present position of the industry. In 1976, a cess on the goods manufactured by the jute industry was levied by the Govt. to meet the expenditure on research. So far the R and D efforts have not brought out required improved products. Assertive endeavours should be made to have technological, industrial and financial assistance from international organisations for the development of new products and market promotion.

(v) Presently the domestic market is a sheltered market as development of synthetic substitutes have not been encouraged and certain restrictions to the use of serviceable second-hand bags in cement industry have been imposed. This position may not be available to the jute industry for a long time. Industry should develop lighter and and cheaper constructions particularly sacking for domestic market in place of B-

Twills and A-Twills which are too heavy and unnecessarily strong.

Challenge from synthetics

For export market, besides efforts outlined above action on two fronts is required—one for meeting the threat from synthetics and the other for competition from Bangladesh. To arrest the advances of synthetics, the technological developments will have to be pursued to make hessian and jute carpet backing better and cheaper. The possibility of developing fabrics of jute in union with synthetics is required to be explored. Such union fabric is expected to be lighter than exclusive jute fabric by 30 to 40 per cent and would give substantial benefit in the incidence of ocean freight and transportation costs also. Moreover, there is need to establish as export price stabilisation fund and maintain buffer stocks of jute goods in the major consumer markets.

Bangladesh's economy to a large extent depends on earnings from jute and jute goods exports. Naturally she had followed such policies that made her the largest exporter of jute goods in the world market. India should review her policy from long term interests. Secondly, it is desirable to have closer co-operation with Bangladesh in R and D efforts, market promotion and trade to help the jute industry of both the countries.

TABLE 1

Production of Jute Manufactures in India (1960-61 to 1982-83)

Year (July-June)	Production ('000 tonnes)
1960-61	1,023
1961-62	1,069
1962-63	1,218
1963-64	1,249
1964-65	1,320
1965-66	1,227
1966-67	1,152
1967-68	1,141
1969-70	932
1970-71	977
1971-72	1,138
1972-73	1,045
1973-74	937
1974-75	939
1975-76	1,136
1976-77	1,186
1977-78	1,178
1978-79	1,047
1979-80	1,337
1980-81	1,392
1981-82	1,334
1982-83	1,234

Sources : (i) Indian Jute Mills Association, *Annual Summary of Jute & Gunny Statistics* (1979-80) p. 30.

(ii) Jute Manufacture Development Council, *Indian Jute*—Vol. II, No. 2, p. 13.

(iii) Central Statistical Organisation, Monthly Abstract of Statistics, Sept. 1983.

TABLE 2

Consumption Trends of Jute Goods in India (1947-48 to 1982-83)

Year (July-June)	Consumption	Average annual consumption	Production of jute goods (annual average) ('000 tonnes)	Consumption as percentage of production (Col 1.3 % Col 4)
1	2	3	4	5
1947-48 1948-49 1949-50	126.0 143.08 118.9	129.6	981.8	13.2
1957-58 1958-59 1959-60	201.2 222.6 252.2	225.3	1073.9	21.0
1967-68 1968-69 1969-70	450.7 379.1 422.7	417.5	1013 8	41.2
1977-78 1978-79 1979-80	564.2 583.1 689.8	612.4	1023.7	59.8
1982-83	904.7	904.7	1234.2	73.3

Source:—Compiled from Annual Summary of Jute and Gunny Statistics of Indian Jute Mill Association & Monthly Abstract of Statistics, Sept., 1983,.

Increased socialisation of economy brightens future of public sector

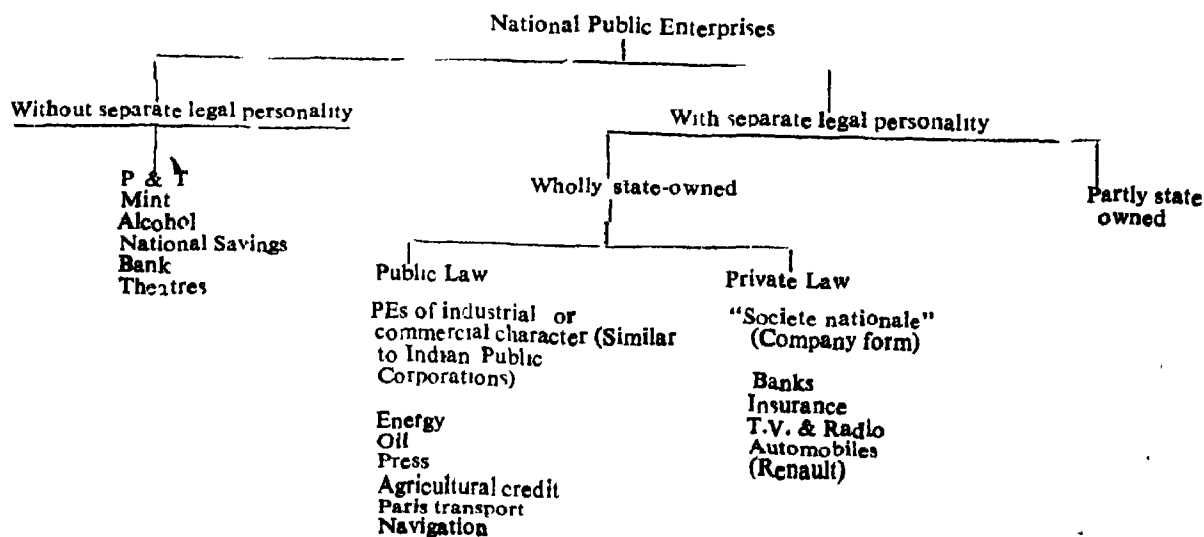
G. N. Seetharam

continuing our series on some trends in public sector in India and abroad, we present the public sector scene in France. The author feels that with the left parties taking over the reins of government, a significant expansion of the public sector seems plausible. He says that a significant shift occurring in the French polity is being reflected in the increased socialisation of the economy.

The genesis of the public sector in France goes back to the period of its industrialisation in the 18th-19th centuries. But of course the character of the public sector then was totally different from what it is in the 20th century when France has become a modern industrial state.

The first world war witnessed the expansion of the public sector to include railways, shipping and air transport. The left of centre popular unity government in 1936 included defence as also the Bank of France in the public sector. In response to economic and political pressure, the public sector expanded greatly after the second world war with the inclusion of coal, gas, electricity, insurance companies, atomic energy, some aspects of transport and jointstock bank came within the purview of the public sector. At the present time the public sector controls the supply of most energy resources, transport, communications (post, telephones, radio and television) etc.

Forms of Public Enterprises

French PEs are characterised by a variety of institutional structures. For example the national public enterprises are classified thus :

A close analysis of the French public sector fails to reveal any logic or coherence in the choice of form of organisation. The reasons seem to be mainly historical. The same spectra of forms is there at the provincial and local levels.

Role of the Public Sector in the economy

The following data provide the most comprehensive data about the important role played by PEs in the French economy.

[illegible] private and the public sectors is remarkably similar. The French public sector employs about 3 million people (1976) out of a labour force of 21.4 million. PEs in France individually are much bigger than private sector units. In fact five of the largest enterprises in France are in the public sector. The structure of public sector investment is given in table 2 :

TABLE 1

The Importance of public enterprises[1] percentage

Year	Value added	Gross salaries	Gross profit	Gross—Fixed Investment	Net fixed production capital stock
1974	11.27	13 88	9.06	22 92	30.0 (1972)

[1]As a % of all enterprises excluding finance & agriculture.

An important characteristic of French public sector is that the above noted data do not pertain to subsidiaries of PEs and hence the public sector on the whole is larger than what is presented in table 1. Public Sector in France like India is capital intensive since over three-fifths of the value added by public enterprises come from energy, transport and communications

TABLE 2

Structure of public sector investment/(fixed)

	% of total
Energy & Mining	28.3
Transport	18.2
Post & Telecommunications	11.2
Mechanical & Chemical industries. . . .	13.3
Agriculture and food industry	0.3
Industries . . .	71.3
Services (Principally Housing) .	28.7
	100.0

Table 3 shows the share of public enterprise in different industrial sectors as a percentage of the total for the sector.

TABLE 3

Share of Public Enterprise in different industrial sectors 1971[1]

	Value added	Gross earnings	Gross profits	Gross fixed investment
Agriculture & food industry	15 6	3 4	3	1 9
Coal	97.3	99 2	97.6	97.3
Electricity, water and gas	88 6	84	86.7	96.9
Oil	3.8	10 17	9.1	8.8
Cars and cycles	20 9	24.8	5 1	25 1
Shipbuilding, aircraft and arms	39 9	42 1	21 5	61.8
Chemicals, rubber	9 6	14	8	27.7
Printing, newspapers, books	0 9	1 1	0 8	0.6
Transport	38 2	52 8	33 8	54 8
Telecommunications	100	100	100	100
Real estate	48 4	29.5	62.1	58
Miscellaneous services	13.3	25.3	4.8	15.5

[1]As a percentage of the total for the sector specified.

22 DPD/83—4

As the table shows French public enterprises are stronger in infrastructure i.e. upstream in the production process. PEs in France as yet do not contribute in any significant measure to the state budget. Profits are low. It is opined that this is due to the pricing policy especially in railways, transport (Paris) and posts.

Control systems

Various strata of French society are concerned about the working of the public sector. Customers for instance are concerned about price and service, taxpayers are concerned about efficiency and the return on capital; suppliers about the fairness of allocation of contracts (where the allocation is not to their advantage) industrialists about equality of competition where the public enterprise is in a competitive sector; conservationists about the impact of enterprises upon the environment; and economists about their impact on the national economy. Hence a system of controls to ensure that they are working on the accepted lines. Recently a committee called the Nora Committee has gone into the question of controls and recommend the abandonment of "the logic of market economy" and, second, for an end to the enterprises' financial dependence on the State by way of a phased return to economic pricing, coupled with a strict policy for the State's reimbursement to the public enterprise of the costs of social services provided at the State's instigation. But this report has as yet not had the effect it was expected to have and the French authorities have opted for the continued subordination of the enterprises.

The Scheme of Control Systems

1. Governmental Control

(A) Ministerial Control

(i) The matters subject to control

(a) a priori-general & specific

(b) a posteriori (later review)

(ii) The organs engaged in the control

(a) Central departments

(b) Controllers of the State

(c) Commissarites of the Government

(d) Council for economic & social development

(B) Control by specialised Commissions

2. Parliamentary control

3. Judicial Control

1. (a) a priori controls

(1) Settlement of objectives

(2) prescription of assumptions and criteria (for use in planning and in pricing and investment appraisalli)

(3) the indication of general constraints, sectoral policies and so on for the enterprises to conform to (for example, in regard to employment, location of plant, use of particular forms of energy and preference for particular sources of supply.)

The ultimate decision on these matters [illegible] Ministers and departments. The specific controls are—

(1) revenue budgets or forecasts;

(2) balance sheets, profit and loss accounts and appropriation of surpluses;

(3) acquisitions or enlargements of interests in other enterprises;

(4) issue of loans.

1. (b) a posteriori controls

This refers to the continuous appraisal and reappraisal of the overall performance and quality of management of the enterprises under their tutelage of the progress being made with major projects and programmes.

2. Organs engaged in Ministerial control

(a) *Central departments.*—usually the prime responsibility of the sponsoring ministry is with the technological questions while the principal responsibility for economic and financial questions lies with the Ministry of Economy and Finance. On many matters both ministries act jointly.

(b) *Controllers of the State.*—their Job is to provide the Ministry of Economy and Finance with the information regarding the economic and financial positions. They are stationed on the premises of the enterprise and have a right to veto on certain decisions till they are considered by the Ministry.

(c) *Commissarites of the government.*—they are appointed by the sponsoring ministry but they need not necessarily be located at the enterprise. Their job is to keep a watch over all major decisions of the undertaking and report to the Ministry. The 'Commissioner' has a right to attend board meetings and check any papers he wishes.

(d) *Council for economic and social development.*—this fund co-ordinates the controls over investments and finance exercised by the ministries. The Council consists of seven Ministers, the Commissioner-General for the plan, the delegate for Regional Development, the four top officials of the Ministry of the Economy and Finance, the Governor of the Bank of France, and the directors of the four major national financial agencies. It has been a major function of the Council to settle the overall requirements for additional finance of the public enterprises under its jurisdiction and submit proposals to parliament. Though the power of the Council legally extend to public enterprises generally in practice it is only concerned with energy and transport enterprises. Programmes of these enterprises after initial examination by the sponsoring departments are put before the council which approves them after examination. Once the council has settled a programme, the minister's formal approval follows as a matter of course.

B. Specialised Commissions

The controls exercised by these Commissions are a priori; and extends to a judgement on the expediency of the transaction especially in case of payments. This control is an important limitation of the management

of PEs. Only after a successful appeal to affected Ministries collectively is it possible for an enterprise to proceed with a transaction if it is criticised by the Commission.

2. Parliamentary Control

Parliament's a priori control is essentially financial. This financial control provides the opportunity for scrutiny of the government's general policy towards public enterprises and some comment on the policies of enterprises. A posteriori; parliamentary control creates a climate of opinion.

3. Judicial control

Judicial control and its enlargement has led to a decrease in the degree of domination exerted till now by the Ministry of the Economy and Finance over the posteriori scrutiny of the enterprises' accounts and performance. It includes administrative tribunals, the court of Audit and other tribunals. This court enjoys a special relationship with parliament due to historical reasons and is not dependent upon the Ministry of the Economy and Finance and is also autonomous in settling its programme of action. The court publishes a general report and also sends unpublished reports on PEs to the sponsoring Ministry, and also parliamentary representatives.

In addition to the above-mentioned control system, in 1977 a ministerial steering committee for Public Enterprises has been formed. It is expected to settle the objectives of the enterprise, review the results and closely monitor policies. This has been formed as a result of the deterioration of the financial position of public enterprises. It is also vigorously supporting corporate planning programmes which is spreading like wildfire among PEs. The spread of corporate planning may pave the way for greater autonomy to enterprises.

A critical evaluation

Public Enterprise in France is heavily represented in the capital-intensive sectors of the economy especially in energy, telecommunications and transport as also in finance. Some of the largest production units in France are public enterprises. There are various forms of public enterprises which have no logical basis. Control of public enterprises is extensive. The overall financial performance of public enterprises is not good in the monopolistic sector. In the competitive sector it is relatively good.

Unsatisfactory performance of many public enterprises especially posts, coal and railways have been attributed to unfavourable market circumstances and government price policies. The under pricing of public enterprise products in these areas is a hidden subsidy to the private sector and is a reflection of government policy. Also, recently there has been an increasing inter-penetration between the private and the public sectors. The inadequacy and irrationality of public sector pricing has been causing increasing difficulties for the treasury. The failure to assure public enterprises of reasonable level of self-financing clearly shows that the matter is a political one—with a strata of the country's businesses benefiting by the public sector and violently opposed to any price hikes. In the competitive sector, public enterprises have shown their mettle by being able to meet competition from the private sector even in areas on the frontiers of technology.

Right now especially after the take over of the reins of government by the left parties a significant expansion of the public sector seems plausible judging by the manifesto of the Socialist party. The extension of scope would bring within the purview of the public sector.

(a) remaining major undertakings providing essential public services or basic social needs;

(b) companies now private but heavily dependent upon public assistance, whatever the form of this assistance;

(c) private enterprises having a quasi-monopolistic hold over the markets;

(d) private enterprises controlling branches of the economy deemed essential to national economic progress.

The programme of the left parties include the gradua nationalisation of the merchant banks, deposit banks and principal trust companies, mortgage institutions and consumer credit. In the industrial sector minera deposits, arms, aerospace, nuclear engineering, pharmaceuticals a large part of electronics, computers chemicals are to be brought within the purview of the public sector. An expansion of the public sector at the regional level is also to be expected. Many multinationals operating in France are expected to be nationalised. Also the price structure may be rationalised so as to put an end to invisible subsidies to the private sector. A significant shift has occurred in the French polity and this is being reflected in the increased socialisation of the economy. Given this new pardigm the future of the French public enterprises seems to be bright. □

A. K. Dutt to head world jute council

Shri A. K. Dutt, secretary to the government o India, has been appointed the first Executive Directo of the International Jute Council (IJC), the highes governing body of the International Jute Organisation (IJO), with Dhaka as its headquarters.

Mr. Jurgen Brandenburg of the Federal Republic o Germany, a representative of the consuming countries, has been elected chairman of the IJO. The IJC would aim at improving the structural conditions i the jute market, enhancing the commodity's competitiveness and maintaining, expanding and developin its international markets.

One of the important tasks of the executive directo would be to mobilise finance for the IJO projects fo support for jute as a commodity.

Appropriate technology for developing countries

Madan Kumar Srivastav

The technological choice facing the developing countries is today between western technology which is capital polarised intensive, labour saving and sophisticated and traditional technology which is not systematic and wasteful to an extent. Intermediate or appropriate technology answers the needs as a transitional step on the ladder of development process. The final step is still cheap mass production through implementation of full automatic technology.

THE FRUITS OF PROGRESS ARE not shared by rural areas which are at the bottom, 90 per cent languishing in starvation, poverty and misery. The cause of the malady lies in the Western capital intensive technology adopted by us which is meant to save labour. This technology flourishes on the sellers market. This has given rise to islands of prosperity in a vast area of poverty and misery. We have to think of making rural areas more prosperous and self-reliant. It has been for this reason Ravindra Nath Tagore, Gandhi and others laid great stress on rural development and improvement of the technology of village arts and crafts. Gandhian movement gave a new turn to industrialisation and machinery. Western technology is good for major industries. It is expensive and complicated. It is also wasteful. There are many constraints to rural economy like absence of electricity, lack of communications, non-availability of raw materials, servicing etc. In 40 British Universities about 200 projects of intermediate technology have been taken up to solve problems of rural areas. In India also it should be adopted for eradication of poverty. We should not think about that people who are already rich. The pioneering efforts of Tagore or Gandhi recognised the basic fact that agriculture alone can not support growing population without alternative sources of employment. It was Gandhiji that started the All India Spinners and Village Industries Association. He said, "if villages perish, India also perishes". He warned that India need not copy the western world. He praised every invention for the benefit of all. His anxiety was that machines should be fabricated and repaired in villages.

Intermediate technology

Intermediate technology will be suitable. Dr. Sehu Macher felt that western technology is not capable of solving the problem of poverty of developing economies. He wanted appropriate technology. He was invited by the Planning Commission to advice it on rural industrialisation. If village industries are to survive, we must improve labour intensive to enable villagers to have full employment with improved earnings, which will prevent them from migrating to towns and join the ranks of unemployed. If science and technology do nothing for little people, how can they help themselves. The technological choice facing the developing countries is today between western technology which is capital polarised intensive, labour saving and sophisticated and traditional technology which is not systematic and wasteful to an extent. Intermediate or appropriate technology answers the needs.

Professor A. K. Sen has pointed out that the choice of techniques in labour surplus economies depends upon the objective. If the objective is the maximisation of output, then we can have a labour-intensive technique. But he feels that this will reduce the volume to investible surplus since the consumption is likely to increase due to the increase in income of the previously unemployed labour. He argues that consumption of even those people who were reviously supporting these unemployed people are also likely to increase. Hence, if the objective is the maximisation of the growth rate, we may choose more capital intensive technique. If our

objective is something intermediate between these two, then we choose techniques that are in between these two.

Adopting labour intensive technique

According to new classical theory, the optimum level of capital intensity is secured by bringing into equality the marginal rate of substitution of capital for labour with their respective factor prices. Since the cost of capital is high, relative to the cost of labour, in most underdeveloped countries, this implies that the capital input should be minimized. This is equivalent to maximizing the ratio of output to capital or as it is sometimes known, the rate of turnover. This means adopting labour-intensive production techniques in labour-redundant economies and this was the position advocated by J. J. Bolak in 1943 and N. S. Buchanan in 1945.

In 1951, A. K. Khan described the rate of turnover criterion as a proxy and sometimes a poor proxy—for a more fundamental criterion, that of maximizing the social marginal productivity of capital. Khan thus emphasized a social marginal productivity as distinguished from private marginal productivity. When an entrepreneur hires away labour and capital on the basis of the marginal productivity rule, he does not substract from his profit circulation the loss of output occasioned by the withdrawal of his labour and capital from other sectors. But society must apprise the development in terms of the net increase in national output. W. Galenson and H. Libenstein offered an alternative criteria, viz. maximisation of the marginal per capita re-investment quotent. They argued that while capital intensive techniques may not create a higher immediate savings and this was preferable. Failure to introduce capital—intensive techniques, according to them, might make difficult later modernization when such modernisation threatened to make some workers redundant. They are of the opinion that capital intensive techniques might lead to a lower rate of population growth, through effecting a faster shift of the population to urban areas, where fertility was generally lower. In 1957, Francis, M. Bootor wrote an article in which he carefully explored the relations between marginal productivity, average productivity and capital intensity and demonstrated that the Galenson—Leibenstein case for higher capital intensity would collapse if it could be assumed that (i) the rate of growth of population is intensive to the choice of capital intensity and (2) the rate of saving is independent of the choice of techniques.

Thus, we found that there are different approaches to the choice of techniques and much depend on the level of development or underdeveloped countries. Intermediate technology should be freely advocated for developing countries, although these countries may psychologically feel that they are some years behind that of the developed nations. All developed countries had to pass through these intermediate stages. Thus the proposed intermediate technology represents only a transitional step on the ladder of development process. The final step is still cheap mass production through implementation of fully automatic technology. □

Biotechnology
Do you know that

the fifteenth International Congress on Genetics was held in New Delhi in the second week of December.

that biotechnology is applied research on the findings *of geneticists, microbiologists, biotechnologists, etc.*

that by mid—1990s, about 20 per cent of foodgrains, vegetables and fruits consumed by humans will be influenced by biotechnology.

that it has enormous potential in producing biological pesticides and in minimising oil shortages.

that deoxyribo nucleic acid (DNA) is the essence of this science. That it is a coil of molecules which carries genetic information that makes every living thing what it is .

that it can be applied to cure bone damage in old people and to produce insulin.

that it can help produce vaccines etc. to protect living things from cholera, malaria, polio, diphtheria, jaundice, foot and mouth diseases, rabies, shingles, herpes and possibly, cancer.

that new protein rich foods, food additives, medicines etc. could also result from the application of biotechnology.

that it may be possible to use them to extract metals from low grade minerals and oil from tertiary wells. □

Pesticides for survival?

Kuwar Jalees

Pesticides are essential to improve man's living conditions. Its use throughout the world is increasing. Despite the enormous benefits derived from pesticides, these chemicals are not problem free. Many pesticides are toxic to living organism and interfere with specific bio-chemical systems. However, to minimise undesirable effects requires proper application of pests in terms of better control and supervision of its distribution.

PESTICIDES are chemicals used to control pests such as insects, and rodents. The use of pesticides since World War II greatly protected man and animal from diseases, increased the crop production and decreased the losses of stored grain.

It is difficult to place a monetary value on human health, but WHO has estimated that an investment of $ 200 million in malaria control in India by residual house spraying with DDT during 1952—66 said nearly 180 million mandays of labour, worth 8490 million. Its cost benefit ratio thus calculated would be a $ 2.7 return for every $1 spent.

It has also been estimated that the agricultural return in the mid 1960 was approximately $4 for every dollar spent on pesticides. It is reported that field losses from pests average 35% for the World's man food crops. In some places losses will far exceed this figure. Studies in the United Kingdom have indicated that if no pesticides were used on cereal crops losses would be 24% in the first year, but by the third year without the use of pesticides losses would be 45%.

Pesticides also enabled India to save an estimated 10—12 per cent of the annual grain production. This is equivalent to a gain of Rs. 5,000 crores every year.

Euphoria over

The quantity of pesticides used through out the world probably exceeds 2 million tonnes. Mostly it is manufactured in developed countries and the annual production is worth more than $ 10 billion.

In India, beginning with very small quantity of approximately 2,000 tonnes in the fifties, the use of pesticides has grown today to nearly 80,000 tonnes per annum. Among those in use which have attracted much attention for their injurious effects on people and animals are those which belong to the organo-chlorine family, such as DDT, aldiin, dieldrin etc. The annual production of DDT in India stands at 14,000 tonnes and that of hexachlorocycle hexane is of the order of 41,000 tonnes. There are 22 factories making technical material and 38 manufacturing formulations. Among the South Asian and African countries we are the biggest manufacturers after Japan.

Despite the enormous benefits derived from pesticides, these Chemicals are not problem free. Many pesticides are toxic to living organism and interfere with specific biochemical system. Since all living organism have some similar biochemical systems, it stands to reason that chemical which kills a fly may also kill a dog.

Some research institutes such as the Indian Agricultural Research Institute (IARI), New Delhi, the Central Plant Protection and Training Institute (CPPTI), Hyderabad, the Central Food Technology Research Institute (CFTRI), Mysore and the Punjab Agricultural Research Institute (PARI), Ludhiana, have independently shown that everything that is consumed by people is contaminated with these chemicals beyond the tolerance limit.

Vegetables worst contaminated

Vegetables are the worst contaminated. Nearly 50 percent of the samples collected from the market

in various parts of the country and analysed at CPPTI, Hyderabad, and IARI, New Delhi, showed very high contamination.

Small doses of these chemicals in food get stored in the body tissues and act as slow poison, seriously affecting the liver and the nervous system. Some years ago, Shyam D. Bokil and Leela Iyangar of the I.I.T. Kanpur estimated that an average Indian's diet contained about 0.27 mg. of DDT. Other researchers, too, have come up with similar alarming data.

To quote a more recent study, S.A. Banerjee and A.B.C. Naronha of the Bio-chemistry Department, Institute of Science, Bombay found in samples of fruits, vegetables and milk from the city, pesticides' residues much higher than the human tolerance limits allowed by W.H.O. and F.A.O. As measured by gas chromatography, some potatoes growth in Maharashtra contained 4.2 ppm of DDT and 1.4 ppm of dieldrin against tolerance limits of 1.0, and 0.1 ppm respectively.

There are many reports of substantial amounts of these pesticides in samples of milk, vegetables oils. eggs etc. collected from Delhi, Pune, Lucknow, and Bangalore.

Deaths

Applied carelessly, pesticides have killed people, animals and birds and destroyed crops. An estimated 37500 people are poisoned by pesticides each year in some 81 countries, and of these as many as 1000 die. A serious source of pollution in India is the indiscriminate use of insecticides and pesticides.

In last two decades there have been several episodes in India of pesticides poisoning. In the districts of Lakhimpur-Kheri and Hardoi (U.P), many families suffered from epilepsy caused by grain contaminated with B.H.C. The dusting of wheat flour with a pesticides caused nearly 100 deaths in Kerala in 1958.

The Handigodu incident in Chikmanglur district in Karnataka must be fresh in people's memory; many poor Harijans of the locality who ate crabs caught from rice fields treated with a pesticide came down with servere paralysis and other acute ailments.

As a result of spraying of pesticides every year in India, the other major health complaints are irritation of the eyes, headache, dizziness and fatigue.

Pests are also becoming resistant to some pesticides. Resistance is more likely to occur with prolonged exposure to large dosages. The Food andAgriculture Organisation carried out a series of world surveys on resistance to pesticides. The first, in 1965 listed 182 resistant strains, the second, in 1968, 228 species, and the latest, in 1977, 364 species. As the last survey shows, over the period 1965-1975, a large increase in resistant pests of cotton and rice, which receive repeated applications of pesticides.

Arthropod pests of agriculture are by far the largest group to develop resistance to pesticides. The FAO surveys lists 223 agricultural pests which have become resistance to nine of the major groups of pesticides. Many of these are major pests of main crops, such as the cotton bollworm.

According to the World Health Organisation, by 1969, 15 species of mosquitoes had developed DDT resistance. The build-up of resistance to dieldrin was even faster; 37 species in the same year. By 1976, a total of 43 species were known to be resistant to dieldrin. Twenty-four species were also resistant DDT, five to organ-phosphates and two to carbam[illegible] In addition to the major vector groups, 38 o[illegible] species, houseflies, black flies and flies, were repo[illegible] showing resistance.

The housefly seems to show the greatest ability to develop resistance to insecticides over the widest geographical areas. The appearance of resistant strains of a post is due to the selective survival and, in some cases, double, triple and quadruple resistant strains have been found. The existence of this multiple resistance magnifies the speed of development and seriousness of the resistance phenomenon.

Alternatives

Pesticides are essential to improve man's living conditions. The use of pesticides throughout the world is increasing, and will continue to increase for the remainder of this century as the race between food production and population continues. To minimize the undesirable effects while maximizing efficiency requires proper application of pesticides. The increased cost of the pesticide development has resulted in fewer new pesticides being developed in recent years.

The best alternative approach, specially in the long term, would be one that altogether obviates, or reduces the need for, the use of pesticides. There are five alternative approaches to chemical pest control (i) environmental control; (ii) genetic and sterile male techinque; (iii) biological control; (iv) behavioural control; (v) resistance breeding.

However, no method used singly will be effective in total control of pests. Pesticides should always be used in combination with other feasible control measures. Improved housing, sewage and better general drainage and refuse disposal can largely banish some vectors from human dwellings. Control of diseases can be supplemented by prophylactic drugs or immunization.

Various agricultural practices, such as crop rotation, changes of sowing, harvesting or irrigation times and the use of immune crop varieties, are employed for pests affecting crops and domestic animals. Better control and supervision of the distribution and application of pesticides where their use cannot be avoided is also required.

How free is free education in India ?

C. B. Padmanabhan

There is a long way to go for North-Eastern States of India before one can say the progress in education there is satisfactory. Under the circumstances, it is necessary to raise the question as to what extent tuition free education has been really free ? While it is necessary to choose other supplementary measures in addition to making education free of tuition, only by making systematic studies of fiscal equalisation of educational opportunity and the use of such findings in policy making one can move in the direction of greater equalisation of educational opportunity.

MORE THAN 90 PER CENT of the students in the villages of Arunachal Pradesh and Manipur has been receiving free education. In rural Tripura the proportion was more than 80 per cent. In urban Manipur and Tripura comparatively fewer students received free education. The major objective of free education, as is well known, is to ensure that the poverty of the people does not prevent them from taking advantage of the available educational facilities in the States, which are predominantly having Scheduled Castes and Scheduled Tribes population. But is this objective being accomplished ? Has the educational development of North Eastern States been faced or adequate in terms of enrolment of the population, literacy, by the absence of male, female, or rural-urban inequality, or by the educational status of adult population or by the absence of non-attenders in schools or absence of dropouts ? On the basis of none of the above criteria, it can be claimed that North Eastern States of India has made adequate progress in education. Has free education therefore not been really free ?

The absence of tuition fees does not really ensure adequate educational progress because there are other items of private expenditure which keep away students from schools. Such expenditures are not insignificant. In the first section of this paper we shall discuss the educational backwardness of North-Eastern States as revealed by the 31st Round of National Sample Survey conducted in 1976-77. (We are aware of the limitations of the information collected by National Sample Survey because of the method of convassing adopted, but obviously some information is better than no information and it is in that spirit that this analysis of available data has been undertaken). The second part will discuss the private expenditure on education and its components. The last part will draw conclusions and try to suggest some remedial measures.

Literacy Rates

There are great disparities in the literacy rates of population above 5 years of age between rural and urban areas. Among the males in the rural areas of Arunachal Pradesh, Manipur, and Tripura the literacy rates were only 24.93, 52.02 and 54.79 per cent, while in urban areas the literacy rates were much higher at 70.62 per cent, 86.06 per cent, and 88.9 per cent The corresponding figures for females in rural areas were only 10.68 per cent, 26.10 per cent, and 35.86 per cent, while in urban areas they were 52.10 per cent, 53.24 per cent, and 77.34 per cent. Thus both among the male and female population, urban literacy rates were higher than rural literacy rates. Tripura had the highest literacy rates both for males and females above 5 years in rural and urban areas, though of course the rural areas had lower literacy rates than urban areas.

Since group 5—9 will have children who have not yet joined the schools, it will be useful to look at literacy rates of those in the age group 10 + for

different age specific groups. In rural areas of Arunachal Pradesh and Manipur, both for male and female, higher literacy rates among relatively young cohorts could be seen. For those above 60, understandably illiteracy was highest and illiteracy was going down for the lower age group and 10—14 age group had the highest literacy. On the contrary, Tripura showed much smaller variations over the age groups though it had highest rates of literacy for the population as a whole. A look at the variations in literacy rates by age groups of population among the both sexes will be very useful for monitoring the progress of literacy and adopt corrective measures. Is it the case that in the earlier stages, progress of literacy is faced and later on it becomes slow and difficult ? Further, why do the different states differ in regard to the literacy rates of population above 5 years of age ? Female literacy in rural areas was 77.34 per cent in Tripura, and only 52.10 per cent in Arunachal Pradesh and what accounts for this range of difference ?

The proportion of students in the age group 10-14 was highest and there is sudden fall in the age group 15—19 years. Does it mean that students terminate studies as they become 14 years old ? We notice that the enrolment rates fall sharply from the age group 15—19 to 20—24. Does it add to the conclusion that students complete their studies upto a certain level or discontinue before completion of study at a certain level ? There are also very large percentages of children who never attended schools and such percentages of non-attending children are large in higher age groups particularly It may also of the North Eastern States of India It may also be seen that the educational level of adult population is low with a large percentage of literate but below primary. In addition, the wastage rates after completing 1 to 10 years is also not low.

Thus from the data regarding educational development of the population in different age groups, one cannot help drawing the conclusion that there is a long way to go for North Eastern States of India before one can say that the progress in education is satisfactory. Apart from the non-fulfilment of the Constitutional directive of free and universal elementary education in an effective way, there are very high levels of illiteracy, the drop out rates are high, male-female and rural-urban disparities are also of a very high order. The level of education of the adult population is not very high either. Under these circumstances, it is necessary to raise the question as to what extent tuition free education has been really free ? Is it necessary to choose other supplementary measures in addition to making education free of tuition ?

How effective has free education been ?

It is in the above context of the backwardness of the education in North-Eastern States that one has to judge the effectiveness of tuition free education which has been enjoyed by 80 to 90 per cent of the students in all the states of North-Eastern India We shall see in what follows that even though tuition fee is not there for all the children, there are other items of expenditure on books and stationery, transport, hostel, etc., which have to be incurred by many students. However, all do not have to incur on all the items, and therefore the per reporting student expenditure is given. Also the percentage of students who have been reporting expenditure on any of these items are given. In the rural areas the average per student expenditure of a national nature—whether the student incurred it or not—has been Rs. 158, Rs. 129, and Rs. 107 for boys in Arunachal Pradesh, Manipur and Tripura, and Rs. 114, Rs. 121, and Rs. 123 for girls in the same states. These were composed of tuition fee, examination fee, other fees, books and stationary, uniform, transport, meals and tiffin, hostel charges and miscellaneous expenditure. We may induce that miscellaneous expenditure constitutes very large items in many cases. Do they represent expenditure incurred on private tuitions ? However, all students do have to spend on all items.

In urban areas the expenditure of a child was higher than in rural areas. A larger percentage of students in urban areas having been paying fees than in rural areas. But in Arunachal Pradesh only less then 10 per cent were paying fees. In urban areas over 90 per cent were reporting expenditure on books and stationery while in rural areas in some of the States only 63.8 per cent were spending on books and stationery.

Expenses of school education class by class is the highest in Nagaland. The expenditure generally increased as the class advanced. There was not much difference between educational expenditure for boys and girls. Of all classes and schools the expenditure on other schools was higher in Manipur and Nagaland and these other schools are professional, vocational and schools for special education. In urban areas 50 per cent of the students reported expenditure on uniform, and in Arunachal Pradesh it is 30 per cent. The average annual expenditure on examination and other fees for reporting student was below Rs. 20. The average total expenditure for rural areas per student varied between Rs. 107 in Tripura for boys and Rs. 158 for boys in Arunachal Pradesh. The average annual expenditure of student on books and stationery and uniform varied from Rs. 20 to Rs. 36 and Rs. 15 to 20 respectively. In urban Nagaland the total expenditure on education per student was Rs. 500 per year, while in urban Arunachal Pradesh it was only half of that; and in Tripura it was only Rs. 150.

What do these findings regarding the private expenditure on education imply ?

Educational policy towards the deprived section of Indian population which are distributed in certain parts of our country, particularly of North-Eastern region, will have to be more concerned with the pattern of the private expenditure on education. To be successful this policy will have to take into account the pattern as well as amount of private expenditure on transport, uniforms, books, stationery, etc. and decide on the kind and amount of scholarships that has to be given to children from backward socio-economic community. The absence of tuition fees is not likely to enable children from such groups to attend schools. There has to be positive discrimination in their favour and the amount of scholarship for such purposes will have to be decided by periodic surveys of the kind done by the 31st round National Sample Survey.

(Continued on page 34)

Managing IRDP the MBO approach

Sandeep Khanna

With its emphasis on results, Management by Objectives (MBO) is best suited to a programme like the Integrated Rural Development as it is a very important tool for combating unemployment and under-employment in the rural areas. Since MBO approach focuses on future, not only in objective setting and action planning but also in performance reviews, it will be of continuing value to the success of the programme, says the author.

Integrated Rural Development Programme is a very important tool for combating un-employment and under-employment in the rural areas. Alongwith TRYSEM, (Training Rural Youth for Self Employment) it has already been recognised as a potent means of achieving the objectives of Sixth Five Year Plan since approximately 80 per cent of the population lives in the villages. The programme was a logical culmination of the earlier programmes e.g. Intensive Agriculture Development Programme (1966-67), Intensive Agriculture Areas Programme (1969-70), Drought Prone Areas Programme (1970-71), Tribal Area Development Programme (1971-72), Hill Area Development Programme (1973-74), Command Area Development Programme (1974-75), Integrated Tribal Development Programme (1976-77). The Integrated Rural Development Programme was designed to cure the deficiencies of all earlier programmes. Hence, special efforts were made by way of scientific surveys to identify the rural poor. Secondly, effort was made to design programmes in such a manner as to benefit the poorest of the poor. Thirdly, adhocism was given up in favour of simple and economically viable employment generation programmes meant to spring up from scientific resource utilization strategies. Fourthly, short gestation period schemes were sought to be evolved so as to facilitate quick repayment of bank loans. Fifthly, efforts were to be concentrated in suitable clusters where regular follow-up could be successfully arranged and infrastructural facilities are suitably developed to absorb the inputs of the programme. Sixthly, to ensure proper followup and monitoring, District Rural Development Agencies were set up in all the districts of the country. District collectors were nominated as Chairman in order to ensure proper coordination with all development departments. Thus, it is clear that the IRD programme in its present form draws upon the thinking and experience of the entire developmental planning process. In this programme, the allevation of poverty is no longer subsummed in a national aggregate growth frame. The renewed emphasis on the word "integrated" probably underscores the yawing gap left between intention and reality. IRD, in other words, is meant to be a frontal attack on poverty by tackling the problem of unemployment and underemployment It ensures the necessary balances and integration by undertaking multi-pronged and multi-sided approach to the rural sector. It also pre-supposes local planning which for the first time imparts realism to the developmental effort, utilisation of local resources, attention to target groups and redressal of imbalances. In a nutshell, the object of IRD is to harmonize the welfare approach with production approach.

Banks in IRDP

It is known that out of a total population of 680 million people, 306 million are living below the poverty line out of which as many as 250 million live in rural areas alone. A large number of these rural poor

belong to the Scheduled Castes/Scheduled Tribes or the Backward Classes. With effect from 2nd October 1980 the Integrated Rural Development Programme has been extended to all the 5011 community development blocks and an outlay of Rs. 8 lakhs per block has been envisaged for the period 1983—85. This vast subsidy investment in the rural areas is to be coupled with much bigger bank credit component. Thus, the banks also have to play a pivotal role. But with their comparative lack of experience in the rural sector and problems of staffing and mobility in the interior, they need intensive stimulation and close cooperation of the Governmental machinery particularly for field visits and subsequent recovery drives. It is quite surprising that even district level central cooperative banks, which have deep-roots in the countryside, have taken only marginal interest in the IRD programme.

IRDP Management

In the ultimate analysis, it is obvious that the implementation of the programme cannot be left to the prevailing styles of the functioning of block level extension agencies. The slow and cumbersome process of reference and overstress on conferences and seminars without intensive follow-up and the near absence of a scientific information system create problems. These are further aggravated by the existence of an information gap between the laboratories and the field staff and between the latter and the intended beneficiaries. However, more rheotric on "attitudinal change" or the theme of service of the poor will not help much. The basic lack of "motivation" cannot be cured without scientific management effort Motivation is that intrinsic power that makes things happen. We cannot merely create a programme with its apparatus of targets and statistical feedback proformas and then sit back and wait for great things to happen. On the other hand, we cannot coax and cajole the extension staff to achieve the results both quantitatively and qualitatively. A call has been given in some quarters for the creation of a cadre of "rural managers". In fact, an Institute of Rural Management was also set up at Anand in Gujarat in 1979. It was expected to generate managerial resources through management education and training as well as research and consultancy activities. The "rural managers" were expected to be something on the lines of "barefoot doctors" about whom we had heard a lot in the last decade However, the creation of a cadre of rural managers seems o be a far-cry today and sounds somewhat "utopian".

Management by Objectives

The answer lies in adopting the MBO approach. MBO stands for Management By Objectives MBO is a test of managerial competence to visualise and plan and of executive skill to implement and achieve. It is perhaps the most effective means of integrating motivated individual effort into a composite and wholesome contribution to the overall objectives of the programme. It seeks to convert resources into results by planning, organising, directing, coordinating and controlling activities and functionaries in any programme. It seeks to quantify and integrate objectives down o the individual engaged in any programme. In other words, the first requisite is that the programme must have specific goals or objectives which it must achieve. An objective is a managerial tool to set the direction and pace of an activity to utilise optimally resources in order to produce the results. It has to be distinguished from purpose which is in the nature of the raison d'etre of the programme. In simple language, "objective" would mean a specific goal to be achieved in a given period of time in pursuance of the purpose of the programme. But objectives are not to be handed down in a spirit of authoritarianism. Instead, they should be fixed after discussion and mutual consultation at all levels taking into account the long term and short term priorities at all levels. However, the priorities can be fixed only after "SWOT" analysis has been undertaken. SWOT analysis is an analysis of strengths, weaknesses, opportunities and threats to the programme both from within the organization and from external factors operating in the environment. This analysis unables realistic objective setting. One of the main weaknesses of the programme as it is being implemented now is the lack of this analysis at all levels. The objective of enabling 600 families per block to cross the poverty line has been given without reference to the existing banking and marketing infrastructure in the block and without reference to the number of vacancies of extension personnel. Similarly, no assessment is made of the experience and aptitude of the local public representatives or the same of opinion leaders and the Block Development Officer. Again the target has no relationship with the existence of or lack of voluntary agencies in the block. A better alternative would perhaps be to give district-wise targets with a minimum prescribed for an average block. Then, it could be left to the District Rural Development Agency to work out block-wise or cluster-wise targets keeping in view the local conditions.

Key result areas

The next step would be to indentify "key result areas" key result areas are those areas of activity where minimal improvement in performance produces maximum results in the achievement of stated objectives. KRAs are usually more durable than objectives. Whereas KRAs indicate the areas where results are important objectives denote the level of performance expected in a given time span. KRAs are neither activity areas nor problem areas. KRAs are limited to the vital 20 per cent of a job which yields 80 per cent of the results. KRA should focus on results and not on activities or functions. Therefore, it is essential to indentify key result areas at each BDO's level. In a certain block, a little effort can give a boost to dairying activity. Similarly, poultry programme can be a roaring success in another block because a certain portion of population belongs to a certain community and because the area is adjacent to a big city where eggs and birds can be sold throughout the year. In such blocks, it would be advisable to have the BDO from veterinary department Similarly, in a remote and distant block which is not covered by any command system, it would be ideal to emphasize minor irrigation schemes with a BDO from the

(Continued on page 28)

Command Area Development problems and perspectives

T. S. Ramachandran

Taking water upto individual field has a terrific impact on the productivity. The yield differentials show that where water was supplied at cultivator's field the yields have almost doubled. Students can be involved in vacation period for the construction of field channels.

THE SIXTH PLAN allocation for irrigation is over Rs. 10,000 crores including Command Area Development and flood control. To this level of investment we may add earlier investments in this sector of about Rs. 10,000 crores. These large investments have so far not been producing the desired results. To quote the Planning Commission's document "inspite of the large investments made in the irrigation sector and the phenomenal growth of irrigation during the last 30 years, the returns from investments both in terms of yield and as finance are very disappointing. Irrigated land should yield atleast four to five tonnes of grain per hectare per year. However, it is, hardly 1.7 tonnes on an average."

It is in this context the role of Command Area Development efforts becomes crucial to Nation's food production which seems to have reached a plateau. As problems facing different commands are dissimilar, separate analysis is necessary for each command. Following is an attempt in this direction in respect of Hasdeo, Kharung and Maniyari Command Area in Madhya Pradesh.

The above Command Area Development Authority was constituted in 1979. The Command Area of these projects namely, Hasdeo, Kharung and Maniyari forms part of the 'Rice Bowl' of Chhattisgarh region. It comprises of 5 Tahsils of Bilaspur district in the 17 development blocks and 1 development block of Raigarh District. There are 1285 revenue villages in the Command area with about a lakh of house-holds. Roughly one third of the population belongs to Scheduled Castes|Tribes and literacy percentage according to 1981 Census is 28.54. Average size of land holding is 1.73 ha. Among the cultivators 49.1 belong to the category of small and marginal farmers. Cultural Command Area is 4,24,000 ha. Out of which Hasdeo accounts for 2,92,000 ha., Kharung 67,000 ha. and Maniyari 65,000 ha.

Actual area irrigated in the above three projects is given in the following statement :—

Year	Hasdeo		Kharung		Maniyari		Total
	Kharif	Rabi	Kharif	Rabi	Kharif	Rabi	
1979-80	34,400	—	30,000	—	33,000	—	93,400
1980-81	40,600	—	50,300	—	44,000	—	1,34,900
1981-82	40,139	—	44,339	1,030	43,357	—	1,28,035
1982-83	40,180	—	40,240	—	32,318	—	1,13,368

The present average yield is about 20 quintals of paddy per ha.

Better delivery system

Before the Command Area Programme started, the water delivery systems used to terminate at outlets commanding 40 to 80 ha. In some cases to size of the chak commanded by single outlet was as much as 160 ha. In the absence of water courses field channels irrigation was done from field to field. Water was permitted to flow causing the first field to flood and then release it to the next field and thereafter the next.

This practice is not only leading to a lot of wastage of water but also results in submergence of fields close to outlets for considerable lengths of time. Because of the excessive flooding, productivity in these fields is greatly reduced. It also creates problems for tail-enders where water, in many cases, does not reach. Another drawback in the system is that it takes nearly 28 days from the time water is released to the time when it reaches the last field. In the event of shortage farmers in middle reaches also are deprived of any irrigation.

Rainfall in this tract is mainly confined to four Monsoon months of June, July, August and September which account for about 80 per cent of the annual rainfall, The actual rainy days vary from 50 to 62 days in a year. Although the total rainfall of about 1,300 mm. is mostly adequate for rainfed agriculture, it is the pattern of distribution and variation in timing which causes concern. In normal years, heavy rainfall coming in isolated storms of 4 to 5 days durations separated by long breaks is good for filling tanks but not for cultivation purposes. It is this erratic feature of the monsoon which necessitated construction of irrigation storage reservoirs in this area on a large scale. A cursery analysis of rainfall pattern of this region indicates two to three years of good rainfall after followed by a couple of draught years.

Monsoon a boon

One redeeming feature in an otherwise bleak picture is that the terrain is not very undulating and most of the cultivated land in the three Commands has already been converted into well developed paddy fields a task achieved over generations of paddy cultivation in the area. On the credit side we may also add that "Rice Culture" is existing in the area and farmers are aware of cultivation practices. In addition, water-logging is not a major problem in the area as the permeability of the soils is fairly good as evident from the fact that during the monsoon seasons the water table rises appreciably but with the withdrawal of monsoon from October the water-table rapidly goes down in the subsequent months. Leaching with rainfall and irrigation in the monsoon season removes any accumulated salts which helps in removing salinity in the soils. This is a great advantage inherent in the project area The other earlier two projects in the State, Tawa and Chambal are haunted by innumerable problems of water-logging and salinity in the post-irrigation stage.

In the water use planning of the projects two major constraints come to the fore. The problem of recurring failure of the monsoon is already there coupled with the erratic nature of its arrival and subsequent behaviour precluding pre-planning of crop practices. Even though the cultivators are aware of the fact that transplantation is beneficial and brings in improved yields upto 10 to 15 per cent, due to uncertainty of monsoon they are not in a position to raise nurseries required for transplantation. Broadcasting method results in low plant population i.e. 100—125 ear heads per sq. metre against the minimum requirement of 600 ear heads per Sq. metre. The other problem is the isadequacy of water even in normal years of rainfall considering the extent of paddy grown areas in the three Commands. This is to be viewed in the context of water yields remaining stagnant in the case of Kharung and Maniyari projects. By 1986-87 with the construction of Bango dam the availability of water is expected to go up in the case of Hasdeo project.

The water available at present is utilised for protective type of cultivation i.e. water is made available only in critical stages of plant life after monsoon rains are over in September. It will be advantageous to build production models to find out the comparative advantage of increasing the yields to optimum levels keeping in view the constraints in regard to the availability of water by restricting landuse. Cropping pattern in the area may also require a change especially in the tail ends. Marginal lands may be left out from irrigation. So incidentally no other crop except paddy can be grown in those bunded fields. This will also require the political sanction, as cultivators may prefer protective irrigation with low yields in large areas to productive irrigation in a smaller area.

To overcome the time constraint in view of uncertainty of arrival of monsoons nurseries may be raised with the help of remanents of water available in storage tanks and also by exploiting ground water resources. It is estimated 10 per cent of the area to be brought under cultivation has to be earmarked for raising nurseries at least a month before the arrival of monsoon in the area. For raising nurseries a massive programme of installing tube-wells in strategic growth centres may have to be undertaken. Apart from helping setting up of nurseries these Tube-Wells will help in augmenting the sources of irrigation in other stages of plant life also.

Insurance cover

Another feature of Chhattisgarh region is, because of frequent droughts, the economy of the area is depressed and cultivators are not capable or willing to take any risk. A sort of subsistence agriculture is practiced. Unless the risks of carrying out new innovations are covered completely, it may not be possible to introduce any major deviation from the present outdated technology. A comprehensive crop insurance needs to be introduced with government

footing the major part of the bill. If the fear of loss is not there the cultivator may be persuaded to adopt new techniques. Cultivators presently are not prepared for consolidation of their holdings due to ignorance and governments persuasion in this direction are not bearing fruits. If the general uncertainty|risk is removed from the minds of the cultivators, it may be easier for the administration to push-up Consolidation work. Compact holding may also be prescribed for insurance cover.

It has already been stated that over-all availability of water is not sufficient to cater to the needs for entire paddy field in the Command Area. This has all the more emphasised the need for avoidance of wastage of water during the conveyance from the reservoir to the fields. It may be considered that upto 40 ha. the water can be conveyed through R.C.C.|Plastic Pipes and from 40 ha. to 5 to 8 ha. chaks the entire channel may be lined. Laying of huge pipes and further lining will have in addition demonstration effect on the minds of cultivators in government's intentions and capacity to supply water to the fields. As it is cultivators in the area have shed their initial mis-givings about the field channels and are very enthusiastic about the programme. They are quite willing to part with a portion of their land for construction of water channels.

Taking water upto the individual field has a terrific impact on the productivity as revealed by the crop cutting experiments conducted in the area last year. The yield differentials in regards to plots where water courses are upto 40 ha. chak as compared to 5 to 8 ha. chak is about 50 per cent and where water was supplied at cultivators field the yields have almost doubled. Laying field channels upto individual holdings does pose an administrative co-ordination problem. The Irrigation set-up in the state with their inclination|pre-occupation with big projects are rather reluctant to go in for construction of field channels. Perhaps vested interests are also involved in their non-enthusiasm. This problem may be solved by the creation of Rural Engineering Irrigation Cadre constituted from local turn-outs form Polytechnics and Industrial Training Institutes. The students may be involved even during their vacations in the construction of field channels. Education and training have to be dove-tailed to the practical needs of the area.

Equitable distribution of water has to be enforced by introducing *Warabandi*. With the availability of water in the channels for about two months in a year, elaborate administrative set-up need not the established. The proposed Rural Engineering, Irrigation Cadre may also be eatrusted with the task of water management in the area.

To conclude, problems and perspectives of Command area development have been discussed and fringe of the problems have only been touched. In-depth studies and analysis are necessary in each critical areas high-lighted in the above paragraphs so that national objectives of attaining full benefits from the irrigation potentials created at tremendous cost are achieved. □

Economic Notes

Andhra Pradesh Annual Plan

ANDHRA PRADESH will have an Annual Plan size of Rs. 918 crores during 1984-85 which represents a step-up of Rs. 92 crores over the current Annual Plan outlay of Rs. 826 crores.

Rs. 360 crores for Assam Annual Plan

ASSAM will have an Annual Plan of Rs. 360 crores during 1984-85—an increase of Rs. 69 crores over the current Annual Plan outlay of Rs. 291 crores.

Rs. 935 crores for Gajarat Annual Plan

THE 1984-85 Annual Plan of Gujarat will have an outlay of Rs. 935 crores, a step-up of Rs. 35 crores over the Annual Plan outlay of the current year.

Rs. 1650 crores for Maharashtra Annual Plan

MAHARASHTRA will have an Annual Plan size of Rs. 1650 crores during 1984-85—an increase of Rs. 150 crores over the current Annual Plan outlay of Rs. 1500 crores.

Annual Plan of Manipur

MANIPUR will have an Annual Plan sibe of Rs. 61 crors during 1984-85 as computed to an outlay of Rs. 52.80 crores during the current year.

(*continued from page* 25)

Agriculture Department. Thereafter, fodder cultivation or kuo-Babul programme can be successfully undertaken.

Performance review

Finally, performance review is also an integral part of the MBO process as periodic performance reviews help in indentifying the reasons for success or failure and in developing a definite plan of future action. These reviews can also throw up the inadequacies of the structure and can also provide guildelines for the modification of policies and practices. The focus in performance review in MBO is on the future, and evaluation of the past performance is important only as a source for ideas and direction of future planning. Focus on performance, emphasis on improvement, future orientation and self appraisal are essential features of this review. Self appraisal not only increases each functionary's influence in the review process but also enhances the credibility of review-results. An information system designed to facilitate frequent review has also to be developed.

To sum up, it can be said that with its emphasis on results, especially in vital areas, MBO is best suited to a programme like the integrated rural development. Since it focuses on future, not only in objective setting and action planning but also in performance reviews, it will be of continuing value to the success of the programme. □

Compulsions of counter-trade

Yojana Correspondent

A counter-trade is an international operation in which a seller provides a buyer with deliveries and contractually agrees to purchase goods from the buyer equal to an agreed percentage of the original sales contract value. At a seminar held in New Delhi recently, the compulsions of counter trade, the extent to which it was practised and the long term solutions to the trading problems of the developing world were examined, reports our correspondent.

COUNTER-TRADE MEASURES of various types are being considered by many countries because of frustration in their efforts to expand their exports and improve their foreign exchange earnings. This was a subject of in-depth discussions in a one-day national seminar on counter-trade, which was organised by the Indian Institute of Foreign Trade and co-sponsored by the State Trading Corporation in New Delhi recently.

Inaugurating the Seminar, the Union Minister of State for Commerce, Smt. Ram Dulari Sinha said : "whatever be the justification for counter-trade measures, we should ponder whether such measures could really form the plank of a long term policy measures for any country". She also said that counter-trade would be self-defeating eventually, even though it might provide a short-term reprieve. The solutions to the trading problem really lay in the sticter enforcement of the multi-laterally agreed principles and rules of international trade, she added.

What is counter-trade ?

A counter-trade signifies an international operation in which a seller provides a buyer with deliveries and contractually agrees to purchase goods from the buyer equal to an agreed percentage of the original sales contract value. The main difference with a normal commercial deal is the contractual link created between an export deal and an inverse commercial transaction which may not be necessarily, directly related to the export deal.

Counter-trade, principally non-barter types, has been systematically practised by COMECON countries both with Western countries and developing countries. It came into significant prominence in East-West Trade during the seventies not only as a strategy of East European countries to offset the difficulties on foreign exchange front and debt servicing problems, but also to ensure a secured and assured outlet for their industrial produce.

The reasons why counter-trade has, in the recent years, gained wide acceptance in developing countries bear close affinity with those which dictated compulsions of East-West counter trade. The need for making large financial transfers for payments of debts and the desire to increase exports paid for in hard currency have led to the continuity of counter-trade arrangements. The developing-countries are placed in a similar situation with oil glut, restricted commodity flows, need for industrialisation and debt servicing burden, making them resort to counter trade mechanism.

Economic objectives

The economic objectives of counter-trade are to increase the export of primary products and manufactured goods, to correct trade balance with specific countries, to strengthen and to project these markets, particularly those in which there is strong international competition, and to conserve foreign exchange. Apart from economic reasons, there are also basic political and institutional reasons which have governed the decision of the countries to forge counter-trade alliances on acceptable terms.

India in counter-trade

India has been a part of the counter-trading establishment for many years now. Its focus has been quite limited. The bilateral relationships between India and East European countries, particularly USSR, have been marked by counter-trade transactions. In the early stages of cooperation India acceded to the buy-back arrangements with USSR in the development of various steel plants whereby USSR accepted product of these plans in buy-back. If India's trading with East European countries is taken as one of the forms of counter-trading, the share of trade so transacted would exceed 10 per cent or more than Rs. 1000 crores

The problems faced by developing countries are foreign exchange crises, unstable world market, large trade deficit and difficulties in achieving trade targets. Through bilaterism most of these problems of individual countries can be solved and India like quite a few other countries should increasingly resort to the system by restructuring its trade and orienting it towards countries which are prepared to buy our goods in exchange of those which we need.

Re-organising commerce ministry

The seminar called for re-organisation of the Ministry of Commerce by creating a department of counter-trade or perhaps two, one handling counter-purchase and the other buy-back arrangement. There was also consensus for opening a cell in the Ministry of Commerce and the Institute of Foreign Trade to undertake studies on country to country basis as to what India could spare to sell which others would buy in exchange of their surplus goods which could meet India's needs.

Foreign trade

In spite of acute balance of payment difficulties India has followed a pragmatic import policy in recent years. This was done in the hope that efforts to improve India's export performance would succeed. It was, however, disappointing to note that prospects for market access for Indian export products were becoming uncertain and really diminishing mainly on account of the protectionist policies pursued by some developed countries. According to the mid-term appraisal of the Sixth Plan, the present estimates of India's total exports and imports at 1979-80 prices were projected at Rs. 349 billion and Rs. 554 billion approximately. The total trade deficit for the period worked out to be Rs. 205 billion which was staggering by any standards. India only hopes that its major trading partners appreciate its position and would assist it by undertaking measures to improve the market access for its products.

Protectionism in developed countries has brought new strains on the multi-lateral trading system. Bilaterism is being practised in various ways and developing countries have been subjected to new pressures. Bilaterism in any form is a negative sum game in the long run.

World economic environment

The world is passing through a difficult trading situation at the moment. There has been a persistent recession in the world economy particularly in the developed countries which has had its adverse impact on international trade flows. The past few years have witnessed a marked decrease in the growth of world trade. Contrary to phenomenon expansion in international trade during the two decades from 1950 to 1970, world trade increased at an average rate of about 5 per cent per annum from 1970 to 1979, by 1.5 per cent in 1980, remained stagnant in 1981 and declined by 2 per cent in 1982. Further, there has been a near collapse in the prices of primary commodities traded in world markets. Perhaps, this has been the worst experience for the developing countries in the past 50 years. Consequently, the terms of trade in the oil importing developing countries deteriorated sharply in the mid-70s. Again, the debt service burden of these countries has also increased considerably as a result of high interest rates. The annual rate of private bank lending to the developing countries has also fallen. One of the worst dangers facing world trade today was protectionism in developed countries. Protectionist measures were proliferating and had acquired sophisticated forms. They particularly hamstrung the efforts of developing countries to expand their exports and promote their economic development.

New policy measures

India has taken several policy measures to stimulate production and exports. The new policy steps to inject dynamism to the export sector are : (1) a scheme of 100 per cent export oriented unit was launched in 1981, under which raw materials, components, etc. are allowed duty free to the manufacturing units, (2) a system of green cards has been introduced to facilitate speedy clearances for such units, (3) industrial policy applicable to large industrial houses and FERA companies has also been relaxed to step up export production, (4) a system of open-house discussion to enable the exporters to highlight their problems has been started, and (5) Export and Import (EXIM) bank has been set up to facilitate financing of long-term credit. Besides, a number of other steps have also been taken to remove infrastructural and other difficulties.

It was in the aforesaid context that deliberations of the seminar brought into focus various opportunities available to India and challenges to which India was exposed in the present world economic scenario. Since counter-trade formed 30-35 per cent of the world trade, the seminar examined the compulsions of counter-trade the extent to which it was practised and the long term solutions to the trading problems of the developing world.

Blood pressure

Dr. R. Tandon

There are many misconceptions about high blood pressure. It is not correct to say that the blood pressure increases with age. The eminent cardiologist, in this article, cautions that by controlling our diet and weight, giving up smoking and excess of alcohol, practicing relaxation, we can control blood pressure.

Our body is made up of a large number of living cells. The cells require oxygen and nourishment for survival. The oxygen and nourishment to the cells is provided through blood. Blood circulates in the body in arteries and veins. Arteries carry blood to the cells to provide nourishment whereas veins carry blood away from the cells to get rid of waste products. The pressure under which the blood is circulating through the body is the blood pressure. The heart working as a pump generates the blood pressure and maintains the circulation. Normally the heart beats 60 to 100 times per minute. Each beat is made up of a phase of contraction called systole and a phase of relaxation called diastole. During systole the heart contracts to expel the blood into arteries for distribution into the body. During diastole the heart releases and fills up with blood to be expelled in the next systole. Since the heart generates the blood pressure, the pressure during systole, as recorded in the arteries, is the same as the pressure within the heart. In diastole the pressure reaches a minimum and increases again at next systole to reach a maximum value. The blood pressure, therefore, has a high reading the systolic pressure and a low reading the diastolic pressure.

Normal value

The normal value of blood pressure increases from birth to adolescence and then remains more or less stationery for the rest of the life. The blood pressure does not increase with advancing age. The blood pressure fluctuates markedly in a 24-hour period. The level of blood pressure depends on the state of mind as well as the state of the body. A change in the mental attitudes of a person may result in a drop or increase in blood pressure, depending on whether he is tense or relaxing. Similarly the blood pressure increases during exercise and falls if we are relaxing.

When the blood pressure of an individual is recorded as high, it is called high blood pressure or hypertension. There are a large number of known reasons which may result in high blood pressure. If the cause is known it is called as secondary hypertension. If the cause cannot be determined it is called essential hypertension Since the blood pressure can fluctuate significantly from time to time, the physician's first responsibility is to establish that high blood pressure is really present. Then he has to determine if it is due to a known cause. If the cause can be determined then it is possible to treat the cause of high blood pressure to control it.

Unfortunately most of us who develop high blood pressure beyond the age of 30 years, have the type called as essential hypertension. It has been observed that essential hypertension tends to run in families and is most likely inherited. Recent observations indicate that the tendency for essential hypertension is established in early childhood.

Bad effects

The next important fact one should know is that high blood pressure causes its bad effects by producing hardening or thickening of arteries over a period of time. This in medical terms is called atherosclersis. The hardening of arteries can affect any part of the body, however, when the hardening of arteries affects the heart, brain or kidney, it results in heart attacks, strokes or kidney failure. It may affect the arteries of the eyes causing diminution or loss of vision. The hardening of arteries of any part of the body results in a compromise of the function of that part. It is unfortunate that hypertension by itself does not result in any symptoms. If symptoms are present, it indi-

cates that the function of that part of the body has been compromised. It is for this reason that high blood pressure has been called as the "Silent Killer".

Another important fact to remember is that once a person becomes hypertensive he or she is permanently hypertensive. This means that the persons suffering from high blood pressure will have to take measures to control the blood pressure for the rest of the life. Initially the blood pressure may fluctuate between normal and high levels but sooner or later it will become fixed permanent hypertension.

Precautions

What should we do if we have high blood pressure. Firstly it is essential that the blood pressure be kept under control at normal levels all the time. Since all the adverse affects of high blood pressure are related to arterial thickening they can be prevented if the blood pressure is kept normal. Today we do not accept that 100 + age is the normal systolic blood pressure. Both the systolic pressure as well as the diastolic pressure have to be controlled. I had earlier pointed out that the heart generates the blood pressure. As such if the systolic pressure is 170, the pressure within the heart would also be 170. Obviously if the pressure within the heart is 170 it has to work more than if the pressure was only 130. The risk to heart or damage to the heart is more closely related to systolic pressure than the diastolic pressure.

Controlling BP

Once we know that the blood pressure has to be controlled and we have to live with controlled blood pressure we should also know as to what we can do to help ourselves in maintaining and controlling our blood pressure.

Step No. 1

The first step is to have a periodic check up of our blood pressure beyond the age of 30 to 40 years. Once or twice a year check up is sufficient if it is normal. We should not forget that we are getting older everyday. A person with a normal blood pressure today may develop high blood pressure next year Hence periodic check up will pick up the tendency for high blood pressure early and prevent permanent, irreversible damage to our body.

Step No. 2

The second step in this direction is the control of diet and weight. Both are closely related to each other and to blood pressure. The hardening of arteries is related to deposit of cholesterol in the blood vessels. As such the diet should contain as little cholesterol and fat from animal sources as possible. The total cholesterol in diet should be less than 300 mg. per day. The weight should be maintained near ideal levels. Reduction of weight to ideal levels will reduce the blood pressure. The diet, should not have too much salt and very salty foods should be avoided, however, stopping of salt is not necessary unless the treating physician has so advised.

Step No. 3

The next step in this direction would be to do regular physical exercise. The exercise should be done empty stomach. We are empty stomach, four hours after a meal. The most useful exercise is walking. Jogging specially for an overweight person is not justified. Jogging is also not advisable after the age of 50 years. Walking during working hours is also not exercise. It is exercise only if done during leisure hours. If a person is not used to it he can start with 1 to 2 Km. a day, at a stretch. The distance should gradually be increased till one is walking 5 Km. a day. Once the distance of 5 Km. is achieved, the speed should be gradually increased till the 5 Km. distance is covered in one hour or less. Control of diet and regular exercise will reduce the weight to ideal levels. Although during exercise the blood pressure increases it falls rapidly to below pre-exercise levels when the exercise is over. Exercise increases the functional capacity of the heart and reduces blood pressure over a period of time.

Step No. 4

The next step is to completely stop smoking. Smoking increases blood pressure. Secondly smoking accentuates arterial thickening. The evidence for use of alcohol is somewhat controversial. Alcohol is a poison for the cells of the body. There is some evidence to suggest that upto 80 ml of alcohol is useful, however, if one exceeds 80 ml of alcohol per day then the higher intake of alcohol the more the chances of developing high blood pressure.

Relaxation

Relaxation and control of tension reduces blood pressure. As such one should learn to relax. It is a habit one has to learn and develop. Relaxation may be provided by reading, gardening, playing games or taking part in other hobbies. Yogic exercises specially the Shavasana is very useful in relaxing the mind as well as the body. The second part of specific measures is regarding blood pressure lowering medicines. It is necessary to emphasise that medicines can control the blood pressure of any individual, whatever its cause. One of the most unfortunate aspects of the blood pressure lowering medicines is that all of them have side-effects which can be troublesome. An individual who had no symptoms because of high blood pressure may develop symptoms due to the side-effects of the medicines. However, the side-effects of medicines are a nuisence but do not threaten life. On the other hand high blood pressure threatens life. In order to control, the life threatening problem of hypertension we have to bear with or accept some side-effects. They generally tend to disappear in four to six weeks. If the blood pressure becomes normal with medicines it does not mean that the blood pressure has been cured. It appears that with medicines it is normal. The anti-hypertensive medicines should not be discontinued suddenly. Sudden stoppage of some of the medicines can have serious

(continued on page 34)

Priorities for 1980s in environmental research

Dr. Gaurav Hirani

A DECADE AFTER the United Nations' conferance on the Human Environment at Stockholm, the Royal Swedish Academy of Science decided to bring together selected scientists of various diciplines (at Ratvik) from countries around the world to discuss and select a strategic set of environmental research and management-priorities for the 1980s.

Looking towards the global environment, the key questions before the scientists were : 1. What environmental problems are inadequately understood and require urgent intensive scientific research? 2. What problems are well understood on a scientific basis and urgently require new management efforts?; and 3. What problems require priority consideration among these, for both environmental research and management in the 1980s ?—in the five major areas for the Atmospheric, Terrestrial, Marine and Biological environment and for a series of Transcending issues.

At Ratvik scientists discussed and selected a specific set of priorities for Environmental Research and Management, which included the following points and observations :

1. Excessive demands on the biosphere and natural resources in meeting human needs create problems which diminish their capacity to do so. Therefore, more sustainable patterns of national and global economic development are needed.
2. Appropriate policies regarding population growth and distribution are needed at all levels.
3. Many environmental problems are closely inter-related, forming complex clusters of key problems of a transcending characters, urbanisation, population, river basin development, hazardous wastes and energy problems. More integrated management techniques and international co-operation are needed to deal with them effectively.
4. To avoid unnecessary and inadvertent impacts on the environment and man's life support systems, more attention must be given to sustainable development strategies, to environmentally sound techniques and technologies, to integrated environmental planning and to environmental education and training.
5. Public awareness and understanding of environmental problems are major factors in strengthening existing policies and programmes to project and improve the environment. An effective communication of knowledge and information from the scientific community to policy makers and the public is crucial in stimulating new efforts and approaches.

The scientists have ultimately chalked-out ten priorities each on environment research and on management.

Research priorities for the 1980 : 1. Depletion of tropical forests, 2. Reduction of biolgical diversity, 3. Cryptic spread of mutant genes, 4. Drought and flood. 5. Acid deposition, 6. Carbondioxide build-up climate change, 7. Impact of hazardous substances on eco-system and man, 8. Loss of productive land due to salinization, 9. Impact of urbanisation, and 10. Meeting correct and future energy needs.

Management priorities for the 1980 : 1. Management of hazardous chemicals, processes and wastes, 2. Depletion of tropical forests, 3. Desertification due to overgrazing, 4. Control of pathogens from human waste and their aquatic vectors, 5. River basin management, 6. Population growth and urbanisation, 7. Acid deposition, 8. Species loss, 9. Protection of the marine environment, and 10. Fuelwood crisis.

Several issues were included in the Stockholm conference but not enough action had been taken on them, and therefore, renewed effort is required as a matter of urgency. And also other priority issues, such as, the cryptic spread of mutant genes, acid

deposition and the fuelwood crisis were not part validity of the conference.

There were many other environmental issues considered at the conference which, though not included on the limited priority lists, were nevertheless judged so important that unless they are tackled more vigorously than at present, the adverse repercussions will be serious and expensive. These issues include the following:

Depletion of the stratospheric ozone layer, Radioactive emissions to the atmosphere, Release of metals and metal compounds, Organic emissions from incomplete combustion, Contamination of soil and ground water from waste disposal, Environmental degradation from mining, Overfishing of the seas, Marine Oil pollution, De-nitrification process in soils and surface and groundwaters, Food production and distribution, Environmentally sound technology, and Chemical dumping at sea.

At the end of the conference, the scientists have declared their spirit by stating that priority issues will stimulate and provoke governments and international organisations and make them adopt or adapt them in a renewed effort to protect and improve the environment during this decade. □

(Continued from page 23)

Fiscal equalisation of educational opportunity

Equality of opportunity and financing of education for equality has a very long history behind it both in India as well as in other countries of the world In a developed country like USA, as early as 1923, it has been asserted that Government programmes of school support should furnish each child with a minimum of educational opportunities and tax burden for these should be borne by individuals in relation to their ability to pay (Strayer and Haig) This has provided the greatest impetus to the concept of fiscal equalisation of educational opportunity. India's interest for financing education dated back to 1921 "when the Indian leadership which assumed control of education made a bolder and a more committed approach to the term of equality in education and society—equality with a much wider connotation a mere recognition of every citizen's right of access irrespective of his caste, religion, or sex to all educational institutions". (J.P. Naik in *Equality, Quality and Quantity in Indian Education.*) Indeed one cannot say that despite our efforts for the last three decades we have made much progress in this direction. There are many practical as well as conceptual difficulties regarding equity in financing of Indian education. The term equity is defined by many people in several ways. For example, horizontal equity emphasises equal level of funding through state aid programmes and take into account variations in efforts Vertical equity recognises that districts differ in terms of distribution of people who require high cost programmes to assure equalisation of educational opportunity or access to programmes that will permit maximum development of the potential [illegible] shaiah, *Non-Formal Education* brought out by Shah and Bhan S.). There are so many definitions of equity and the problem of choosing appropriate measure to apply in any given situation to assess the equity of a financial system is a difficult one. But equity will have to be defined so that what is being measured is known on account of these difficulties one can concentrate on the concept of fiscal equalisation of educational opportunity. It is on the basis of this approach of fiscal equalisation that one has to undertake a large number of studies of the systems of financing Indian education in different states and within states by districts, particularly those districts where there is concentration of tribal (SC|ST) population. Only by making systematic studies of this kind and the use of such findings in policy making one can move in the direction of greater equalisation of educational opportunity.

(Continued from page 31)

side-effects which can be life thereatening. If the blood pressure can be kept normal for 6 to 12 months or longer, it is possible to gradually reduce the total dosage.

Misconceptions

There are many misconceptions about high blood pressure. It is not correct that the blood pressure increases with age and that 100 + age indicates the correct systolic blood pressure. It is wrong to believe that ladies tolerate high blood pressure better than men. They also suffer from the same bad effects. It is also wrong to believe that high blood pressure is normal for some people and that the body has so adjusted itself that lowering of blood pressure will harm the body.

Lastly, I would like to re-emphasise that the blood pressure has to be kept normal. If we control our diet and weight, if we do not smoke or indulge in excess of alcohol, if we do regular exercise, and actively practice relaxation, we are helping ourselves in lowering of blood pressure. By taking these measures we will be reducing the total amount of drugs required to control the blood pressure.

(Courtesy : All India Radio)

Employment for 1000 tribals

OVER 100 tribal families live in Borjolai, a backward village under Jirania Block in West Tripura. Most of them are small farmers. The rest are landless agricultural labourers.

The Khadi and Village Industries Commission (KVIC) started a Spinning Centre of New Model Charkha at Borjolai in 1976 to provide employment opportunities to the village women, who had nothing to do between seasonal farm work. Presently, fifty tribal women of the village are working in the Centre during their leisure period and each earns up to Rs. 200 per month.

In Tripura, the KVIC has opened 14 similar Spinning and Weaving Centres in different Blocks. Over 1000 villagers are now earning their livelihood through these Centres. Of them, 60 per cent are women. The KVIC proposes to open more Weaving and Spinning Centres in the State and a sum of Rs. 25 lakhs has been earmarked for it during the year 1983-84 under its direct activities programme.

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Maharashtra excels in family welfare programme

THE YOUNG Muslim Social Association and The Muslim Satyashodak Samaj are two voluntary organisations, functioning in Amravathi, Maharashtra. Under their aegis, 3000 vasectomies and 600 tubectomies were conducted in Amravati alone in 1983. The local Grain Merchants' Association made available ever bright steel utensils to the Associations, so that each acceptor got a utensil as an incentive. No wonder, with such spontaneous support from voluntary organisations, merchants' guilds and civic bodies, Maharashtra emerged number one among the Group 'A' States and bagged in its inaugural year the coveted National First Prize of Rs. 250 lakhs for the best performance in Family Welfare activities.

As on 1 April, 1983 Maharashtra's annual population growth rate came down to 1 91 per cent, a record minimum in the country.

In 1982-83 the number of couples who accepted various family planning methods rose to 9 85 lakhs.

The target fixed for the State for 1983-84 is 5,01,000 Sterilisations, 2,95,000 IUD insertions, 4,54,000 Contraceptives, and 1,48,000 Oral Pills. The Government of Maharashtra is hopeful of achieving 6,00,000 IUD insertions during 1983-84. It has hoped to achieve the target with the willing cooperation of voluntary organisations, Municipal Corporations and Village Panchayats.

Over the years the State has bagged 10 National Awards for family welfare activities.□

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Multi-drug regimen project for leprosy cure is now being implemented in 12 of the 90 and odd high leprosy endemic districts in the country. The remaining districts will be covered in a phased manner.

The new therapy is the use of mainly Dapsone, Rifampicin and Clofazimine under close clinical supervision. It reduces treatment period to about two years.

There are two Regional Leprosy Training Research and Referral Institutes. One more has been sanctioned and four more are being planned.

There are 392 Leprosy Control Units, 6080 Survey-cum-Treatment Centres, 657 Urban Leprosy Centres, 245 Temporary Hospitalisation Wards, 74 Reconstructive Surgery Units, 163 Zonal Leprosy Officers Units and 12 Leprosy Training Centres, functioning in the country to eradicate this dreaded disease.

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Our Contributors

Dr. Nilay Chaudhuri—Chairman, Central Board for the Prevention and Control of Water Pollution, New Delhi ; **S. K. Prema**—Economist, Madras ; **K. M. Tiwary**—President, Forest Research Institute & Colleges, Dehra Dun ; **P. Showkath Ali Khan**—Research Scholar, Deptt. of Economics, Sri Venkateswara University, Kavali, Andhra Pradesh ; **Dr. Arun Kumar Sharma**—Department of Humanities & Social Sciences, I.I.T. Kanpur ; **Dr. M. N. Mishra**—Reader in Commerce, Banaras Hindu University, Varanasi ; **Dr. G. N. Seetharam**—Faculty Member, Institute of Public Enterprise, Hyderabad ; **Satyabadi Misra**—Senior Consultant, ORITCO Limited, Bhubaneswar ; **N. C. Tejpal**—Director, Perma Farm Development Institute, Rajkot ; **M. Y. Siddiqui**—Correspondent, Yojana ; **Navin Chandra Joshi**—Reader, Deptt. of Economics, Motilal Nehru College, New Delhi ; and **D. P. Rangan**—Literary critic, New Delhi.

Industrial pollution control constraints and conflicts

Dr. Nilay Chaudhuri

Should the Industrial manager be sent to jail for industrial pollution or be forced legally to control industrial pollution ? Pollution control boards would adopt that course which society demands. For lasting protection of environment recalcitrant industries must be forced to control industrial pollution.

The question is how many industrial entrepreneurs have been put behind the bars for polluting the environment since the introduction of the Water (Prevention and Control of Pollution) Act in 1974. The answer had been naggingly no till August 13, 1983. On that day came a judgement for the first time in India when an additional Chief Judicial Magistrate awarded, two years' simple imprisonment in addition to a fine of Rs. 2000 to the manager of a paper mill, located in Rajasthan The manager may serve the jail sentence if the proprietor does not appeal against the judgment. Even if the paper mill finally looses and the manager, the salaried person, goes to jail, probably as part of his duty, the proprietor remains still an honourable citizen. In addition, the verdict spells nothing about stopping the pollution, the very cause of evil.

Timebound implementation programme

Timebound implementation programme on behalf of the proprietor of the paper mill as an affidavit in the court should have been preferred to imprisonment of the manager. The indicator for pollution control should not be the number of prosecutions launched against polluters and the number of convictions obtained in favour of pollution control enforcing agencies. The indicator should be the volume of pollutional load, liquid, gaseous, or solid, made innocuous enough to be accepted and assimilited by the receiving environment without manifesting any sign of deterioration. While the former indicator may have news value, the latter indicator has a lasting value on the environment.

Strong political will

Like most of the developing countries in the South East Asia and Pacific Region, India entered the realm of environmental protection in the previous decade. The tenth year since the introduction of the Water (Prevention and Control of Pollution) Act of 1974 is with us. The implementation of industrial pollution control programme has its successes and failures. It is but logical that developing countries are under chronic shortage of all relevant resources such as finance, technology and techno-scientifically competent manpower. However, all these contraints are surmountable if the pollution control implementation programme is backed-up by a strong political will.

As the Air (Prevention and Control of Pollution) Act was introduced only in 1981, the country has acquired a very minimal experience in this regard. But significant advancement has been made in the field of water pollution control. In the federal form of Government with the State Governments' autonomy on the control of water, the very introduction of a single piece of legislation applicable in whole of the country manifests a strong political will for pollution control. When a State Pollution Control Board administers the same water protection law the industrial enterpreneurs are left with *no choice* of flocking in a State permitting all possible incentives including pollution.

Regional imbalances in industrial growth do exist not because of slackness in pollution control in some States as compared to others. The regional imbalances are more because of uneven distribution of raw

material market, skill and other industrial infrastructural support. This disparity in industrial growth now has put dissimilar pressure on some State Pollution Control Boards as compared to the others. Thus, Assam in the north-east, and Himachal Pradesh in the north-west are to control not more than 20 polluting industries each. In contrast, Maharashtra and Gujarat are required to control no less than 400 to 600 industrial units in each State. On top of it more and more entrepreneurs are looking for setting up industrial units in the two States. In the backdrop of such disparity in industrial growth between States a uniform piece of legislation for the entire country has become a strong cementing force in pollution control. It is further strengthened by the creation of a Central Pollution Control Board (CPCB) at the national level, as conceived in the Water Act. This apex body not only advises the Central Government but also coordinates the activities of all the States Boards.

"IN A FEDERAL FORM OF GOVERNMENT INTRODUCTION OF A COMMON WATER POLLUTION CONTROL ACT APPLICABLE IN WHOLE OF INDIA INDICATES A STRONG POLITICAL WILL TO COMBAT POLLUTION. THIS PRECEDENCE HELPED TO HAVE A COMMON AIR POLLUTION CONTROL ACT. CREATION OF A CENTRAL BOARD AS THE APEX BODY SERVES THAT CEMENTING FORCE."

Misguided zeal

Control of pollution at source, although recognized by all States as the major thrust area for pollution control, did not receive the due recognition at its formative years. State Pollution Control Boards, in their zeal to show result started asking industries to control pollution in a 'pick and kick' fashion. In this process many industrial units were chased whose pollutions were not worth looking at, and thus the regulatory agencies lost otherwise gainfully utilisable time. This error in approach crept in as the Boards used the list of industrial units maintained by the State Department of Industries for pollution control enforcement When the State Boards realised that many major polluting industries were not included in the 'pick and kick' list, the significance of their listing and arranging the pollutionally relevant units in the order of severity in pollution was appreciated. In this process the Andhra Pradesh State Board realised that by tackling only 13 industrial units out of 133 units in the city of Hyderabad, more than 90 per cent of industrial waste water by volume would be controlled. Similarly in Delhi control of 16 industrial units would cover more than 95 per cent of industrial waste.

For the 14 States, excluding Maharashtra, Tamil Nadu, Orissa and five North-East Hill States and the nine Union Territories, the Central Pollution Control Board conducted an industrial survey during April-May, 1981. Out of a total 2,700 large and medium industries, 1,700 water polluting industries were identified. The progress in industrial waste-water pollution control was also noted along with legal prosecution. The information is summarised in Table 1.

(Tables are given at the end of the article)

Slightly less than 50 per cent of industrial units have been covered in a period of less than a decade. Should it not be considered as a significant progress in industrial pollution control ?

"INVENTORY OF POLLUTIONALLY RELEVANT INDUSTRY IS A PREREQUISITE FOR SYSTEMATIC CONTROL OF POLLUTION. PICK AND KICK APPROACH LEADS YOU NOWHERE".

Pollution control strategy

Any country introducing pollution control legislation at any time would have a stock of industrial units with antiquated or no pollution control and also with old pollution control processes. Pollution Control for these units is more difficult as compared to new industries because of higher cost at no or marginal benefit. Psychologically also these entrepreneurs remain averse to pollution control viewing such investment as unproductive. To hasten establishment of pollution control in the existing group of industry, the CPCB evolved an industry-specific pollution control strategy based on the Comprehensive Industry Document. This document covers numbers, sizes, geographical distribution, material inputs, processes adopted, product mix, by-products recovery, water consumption, various waste streams and their characterization. It particularly deals in prevention and control methods of waste water as against their cost implications. Any specific type of industry must know the extent upto which its effluence must be treated so that it can discharge the same either for irrigation or in rivers, lakes, estuaries and sea depending on its location.

The document evolves the industry-specific Minimal National Standards (MINAS) by evaluating cost of various levels of treatment. The capital cost on this measure is converted in annuity taking relevant interest on capital and depreciation. This annuity is converted into annual burden by adding operational, maintenance, and repair cost for each level of treatment. The level of treatment for which the annual burden remains within three per cent of the turnover is accepted as the appropriate level of treatment, to be installed by each existing specific industry. The concomitant effluent quality is termed MINAS which cannot be relaxed by State Pollution Control Boards. Stricter effluent quality is prescribed if a specific location so demands. The consultant engaged for evolving each of the Comprehensive Industry Document is continuously guided by an Industry Committee which includes representatives of the specific industry, the

Executive Ministry, Industry Association, Indian Standards Institution, Directorate General of Technical Development and Department of Environment.

The prescription of MINAS based on annual burden of treatment as certain percentages ot the turnover of the industry, is liked by industries as they can pass on the cost of pollution control to the price of product. So long this is within three per cent, a product costing one rupee can be increased to one rupee and three paisa without creating any stir in the mind of industrial entrepreneur and consumer too. It is heartening to note that this percentage remains within one for many types of industry. It crosses the upper limit of three per cent for industries generating synthetic chemicals such as pesticide, pharmaceuticals, Dye and Dye Intermediates or industries having extremely high organic pollutant such as molasses-based alcohol distilleries.

The nation-wide implementation of industry-specific pollution control has its merit as reflected in Table 2 (on page 12). The eight types of industry put in phase I are vigorously persued for implementation of pollution control. The preparation of Comprehensive Industry Document for the types of industry grouped in phase II is in advanced stage, awaiting finalisation.

"INDUSTRY MUST KNOW ITS FINANCIAL BURDEN TO CONTROL POLLUTION. TO FULFIL THIS REQUIREMENT INDUSTRY-SPECIFIC MINIMAL NATIONAL STANDARDS (MINAS) ARE EVOLVED CORRELATING ANNUAL BURDEN OF POLLUTION CONTROL TO ANNUAL TURNOVER OF THE INDUSTRY."

While clearing the backlog of industrial pollution mess created by existing industries the regulatory agencies should not lose sight of controlling new industries; otherwise the backlog would keep on mounting instead of melting. Any new industry draws attention of the provisions of the Water Act only at the stage of discharging the industrial wastewater. If the new industry does not install any wastewater treatment plant along with the commissioning of the industrial plant, the State Boards as regulatory agencies often find it difficult to ask the industry not to discharge untreated wastewater until the treatment plant is built. This is because such refusal tentamounts to virtual closure of the industry, which a developing country can hardly afford. To avoid such last moment embarrassment, and at the instance of the Central Pollution Control Board, the Central Government issued an executive order. As per this executive order the Central Industrial Licensing Committee allows conversion of letter of intent into industrial licence if the entrepreneur obtains a No Objection Certificate (NOC) from the concerned State Pollution Control Board. Majority of the States are not practising this procedure. Moreover, the Central Industrial Licensing Committee does not scrutinise fulfilment of the NOC requirement from State Pollution Control Boards. However, in the States where NOC is practised, entrepreneurs of new industries submit six monthly progress reports on commissioning of the industrial plant to the Directorate General of Technical Development (DGTD) of the Central Government along with the report on pollution control equipment erection. Instead, the report on pollution control equipment erection should go to the concerned State Pollution Control Board rather than to the DGTD.

"TODAY'S NEW INDUSTRY WOULD ADD TO THE LIST OF TOMORROW'S EXISTING INDUSTRY AND CONTINUE TO ENLARGE THE LIST OF THOSE AWAITING POLLUTION CONTROL UNLESS POLLUTION CONTROL HAS BECOME A PART OF THE PLANNING OF NEW INDUSTRY."

Weakest link

Unless the system of obtaining NOC from State Pollution Control Boards and subsequent submission of half yearly progress report on pollution control to them is practised, today's new unit would add to the list of tomorrow's existing industry, and continue to enlarge the list of those awaiting pollution control.

The system of NOC as practised till date, has remained one of the weakest link in pollution control.

TABLE I

Statewise Polluting Industries and their status of Pollution Control Enforcement

Sl. No.	State	No. of Industries	No. Relevant to Water Pollution Control	No. of Industries Control Ind. Waste	No. of Industries under Prosecution
1.	Andhra Pradesh	300	114	54	10
2.	Assam	42	30	8	Nil
3.	Bihar	161	95	14	5
4.	Gujarat	509	389	68	25
5.	Haryana	145	110	16	87
6.	Himachal Pradesh	30	20	1	Nil
7.	Jammu & Kashmir	28	3	1	Nil
8.	Karnataka	224	166	142	3
9.	Kerala	165	130	60	4
10.	Madhya Pradesh	277	119	108	Nil
11.	Punjab	143	68	21	19
12.	Rajasthan	156	108	82	20
13.	Uttar Pradesh	180	102	47	10
14.	West Bengal	200	120	53	2
15.	Central Board for Union Territories	140	136	36	56
	TOTAL	2,700	1,700	711	241

(Continued on page 12)

The economics of pollution

S.K. Prema

There is no escape from pollution which is now part of everyday life in any country. Clearer environment eliminates, nay, reduces pollution. But what about the cost of pollution control. The author, in this article, has advocated the need for educating people through different media on various measures to control different forms of pollution.

NO ONE CAN escape the pollution that has become part of every day life in any country. Since pollution can be defined as "the production of unwanted by-products of human activity", then pollution has occurred whenever people have done something—even when they have merely existed. Some people believe that pollution and the quality of life in general are problems that can only be solved by scientists using improved technology. 'After all, a polluted river is first and foremost a physical fact of life'. But while all pollution is physical because it involves physical destruction of the environment, there cannot be any analysis of pollution problems without economic considerations.

Private cost—social cost

Economists often distinguish between what is called private cost and social cost. Private cost is what the individual pays for something he buys or does whereas social costs are what society pays for any action by individuals in the society. These costs include not only all private or personal costs but also all costs that individuals do not consider. For example individuals pay the private costs of driving an automobile such as gas oil etc. Society pays not only those costs but also such costs as air pollution, noise pollution and congestion. If automobile manufacturers were required to put pollution control equipment on engines, the price of automobile increased. The point is that any discussion about improving the quality of life require a discussion of the price people must pay for that improvement. Among other matters economics concerns itself with the price people must pay for their actions. Thus economics plays an important part in any analysis of the environment.

Quality of life

Modern cities deplore materialistic concentration on the quantity of economic goods. To Samuelson, "To many, GNP stands for Gross National Pollution. Modern economics make a fetish of quantity at the expense of quality of life... why not we supplement GNP by a more meaningful NEW (Net Economic Welfare)". National concern for the deteriorating quality of the environment has snowballed in recent years. Concern for economic growth has been supplemented by the question, Growth for what? Air and Water Pollution are pervasive by products—'externalities'—of modern industrial society. Externality occurs when our behaviour affects the wellbeing of someone else without his agreement. For example if person 'X' sells cement to person 'Y' that pollutes the air for miles around, both X and Y can be reasonably sure that both of them gain from the trade. But their transactions in effect worsens the lot of people who live near the cement mill and they have had no say in their cement transaction. Thus we can no longer be sure that the general welfare is increased by the transaction. Since the air over the land surrounding the plant is publicly owned, private rights to its use are 'ill-defined'. For the most part, it is treated as if it were a free good available for any one to pollute as he wishes without payment.

Major reasons for pollution

There are two major reasons for increasing pollution. The first reason is the increase in population. Increasing population has led to ever increasing pollution. Secondly the increase in material wellbeing of the people. Infact a major determinant of the levels of pollution has been how much income people

have had to spend for manufactured products. The manufacture of these products—first caused the by-products that are pollution and increased them many times over the years.

Air—water—noise pollution

Pollution may be water pollution, Air pollution, and noise pollution. If we live in an industrial city with their many mills, we know what air pollution is. If we live near a busy airport, we know what noise pollution is. If we have tried to swim in any lake or river we know what water pollution is. The World Health Organisation has defined air pollutants as "substances put into the air by the activity of mankind in concentration sufficient to cause harmful effect to his health vegetables property or to interfere with the enjoyment of his property". Air pollution may be considered in two groups (1) Smoke and fog, together called smog and (2) the second group consists of dust fumes, gases, etc.

As civilization grows noise pollution grows. It is said that Julius Ceaser banned Chariots from the Cobblestone streets during evening hours because of the noise they made. How far it is true—we do not know. But one can wonder what Julius Ceaser would do if he lives in this twenty-four hours noisy world.

Water can clear itself of a certain amount of pollution. But if the pollution becomes too great, it cannot purify itself. Water pollution comes from three major sources—(1) Sewage (2) Industrial waste and (3) Agricultural waste. Today industry contributes more water pollution than do house-hold users. The major industrial pollutions are the chemical primary metals paper and food industries. UNESCO sponsored work study in Malaysia has indicated how pollutants like starch water from tapioca—production or the fluids from rubber processing can be recycled for human use instead of being allowed to destroy fish. The USA, Britain, Japan and other advanced countries have already discovered special methods for processing industrial waste. In Hongkong, in Malaysia several measures have been taken to improve the quality of the environment. Termination of concorde overflights, cleaning of several polluted rivers, clear enunciation of a national policy for logging within catchment areas and forest reserves introduction of a new air pollution act, ordering of new air pollution control are some of them.

Problem of pollution in India

In India the problems of environment and pollution became an important issue only very recently. It is really sad that almost all our rivers are polluted. to a very greater extent. Washing and bathing in our rivers continue unabated. People living in river-side town and villages still choose to use the river directly for their toilette requirements. Apart from these, the haphazard building of unauthorised huts and the growth of slums in most urban areas of the country are also destroying the environment.

Though the Government of India has taken steps to control pollution, by setting up a National Environmental Council, the Department of Environment etc. and by a few other measures, it lacks environmental-cum-economic approach. While Mathura Refinery's noxious fumes are considered a threat to the Taj Mahal, the silent valley hydro electric project in Kerala may destroy the unique patch of tropical forest. To reduce congestion in the road side, the Government has undertaken the construction of underground Railway in Calcutta. This project will cost more than 500 crs. and will take 10 to 12 years to complete. However by the time when this railway is ready, the roads will continue to be as congested as at present or perhaps more. On the other hand if the same amount of money had been devoted to the development of rural areas congestion to the City may be prevented or atleast may be reduced to a minimum.

How to prevent

How to prevent or atleast to reduce the problem of pollution? Students in School should be educated above the necessity for personal and environmenmental cleanliness. The Government should also induce local authorities to adopt less noxious was of disposal of human waste.

According to a recent decision taken by the centre every major port in India will have to create a separate anti-pollution cell to control oil and other pollutions. To begin with Bombay, Calcutta, Madras and Visakapatnam ports will have such cells. In other ports also one of the Officers of the Marine Department will be incharge of the anti pollution work. Pollution in areas beyond the control of the ports would be taken care of by organisations like the Coast Guards.

The International Marine Pollution convention (MARPOL) Protocol which comes into effect from October end stipulates that ships and ports should have certain facilities for reducing pollution. Though India had not yet satisfied the MARPOL Protocol. steps were being taken to introduce anti-pollution measures in ports.

Cost-benefit analysis

A basic question now is how far people should go in cleaning up the environment to eliminate all pollution would be literally impossible. People should eliminate pollution upto the point where it is no longer worth it. In theory it occurs when the cost of eliminating any additional pollution outweighs the benefit to society created by eliminating more pollution. In practice it may be difficult to measure the benefit to society of additional pollution reduction. We know most people would like a clearer environment. But how much do they value increased purity compared to what it costs them to obtain it? When we begin talking about costs we are talking about economics. In nutshell the approach should be one of environmental-cum-economic approach. In a sense prevention of pollution may be much better than combating epedemics. It is essential that the Governments in the States should implement measures to control and prevent different forms of pollution along with educating the citizens through the various media like T.V., Radio. and the Press. In the long run these would reduce the financial burden of the states of Health Care Scheme. ☐

Removal of poverty through social forestry

K.M. Tiwary

With an investment of about Rs. 1000 ores a year for over a period of 10 years ly it is possible to raise economic status over 300 million people living below the verty line through social forestry alone thin the next 20 years by providing sus'ned means of gainful employment through eating and later utilising the tree based alth in otherwise unproductive land in the untry. The fundamental approach should to create a land source to be utilised by ly those people who are prepared to work nually

For whosoever hath to him shall be given, and he l have more abundance, but whosoever hath not, i him shall be taken away even that he hath"

ermon 12, Chapt. 13, Bible New Testament.

'ow apt is the above sermon in the context of an poor will be more than borne out from the folng facts brought out in the Parliament a few s ago.

> "The most fundamental problem of the Indian economy is the inadequate rate of economic growth". In 1950s, the real per capita income rose at a compond annual rate of 1.9 percent, a far lower pace than that of many major developing countries in the world. From 1961-62 to 1976-77 this rate fell to 1.1 percent, notwithstanding the continued expansion of investment and the growing sophistication of plan effort per capita income in 1976-77 (Rs. 365.10) was nominally lower than in the preceding year (Rs. 365.00), both at 1960-61 price".

> "This downward trend more than wiped out the gains recorded in 1950s; and the income at the end of the period (1976-77) was Rs. 2.30 lower than that in 1950-51 (Rs. 197.80), for all the high-powered and hectic developmental activity of over a quarter of a century and despite a doubling of the agricultural part of the plan outlay from Rs. 254 crores in 1961-62 to Rs. 510 crores in 1976-77. The Government can ignore facts only at its peril and indeed, at the risk of the country's future."

> "By contrast, the per capita income of a minority (28 per cent) of the people, mainly the urban population, more than doubled, from Rs. 399.40 in 1950-51 to Rs. 813.20 in 1976-77. This rise was unbroken, even during 1965-67, when severe drought had pushed the agricultural per capita income to rock-bottom levels".

Malcolm S. Adiseshiah, the noted economist, has gone on record to say that :

> "At the time of independence our direct taxes (which are paid by the well-to-do) were 52.7 per cent and indirect taxes (which are paid in the main by the poor) were 47.3 per cent of all tax revenues. Today the position is reversed with the direct taxes in income and property of the well-to-do contributing 25 percent and indirect taxes on commodities paid mainly by the poor (indirect taxes like medicine coated with sugar are hidden in the price of tea, cloth, matches, sugar, kerosene etc., and are paid by all and as majority are poor are paid in the main by the poor) contributing 75 per cent of total tax revenues. Second, under the scheme of various tax-concessions, over 35 of

the largest firms who made a net profit of Rs. 10.4 to 5283 lakhs a year do not pay any tax. Third, the government states that it is afraid of raising any further income tax, corporation tax, wealth tax and gift tax, because it will only increase the growing tax dodging and the illegal economy of the country. It is, therefore, with a deal of regret that I conclude that our tax system while raising resources to finance the relief programmes for the poor, raised those resources mainly from the poor themselves. It is a case of heads I win, tails you lose, what is given with one hand, being taken away with the other."

In the recent economic survey of the State of Uttar Pradesh carried out by late Dr. Baljeet Singh, Professor of Economics, Lucknow' Varsity, the average annual income of the population inhabiting the 13 districts of Eastern Uttar Pradesh is for less than Rs. 200 per annum. In fact, the average annual income of people in Basti District is only Rs. 116 per annum. One shudders to understand the living condition of the people with an income of Rs. 15 per month during these hard days. A study of the figures reveals the declining trend in the income of the people whose income was comparatively the lowest. This confirms the general trend that amongst the poor, the poorest are becoming still poorer.

Removel of poverty

After independence the Government has made vigorous efforts through the successive Five Year Plans to improve the lot of the poor. Poverty was recognised as mainly related to inadequate agricultural production. Massive investments to increase agricultural production were made, for bringing more land (25 million ha. since 1950) under plough, to augment irrigation potential from 22 million ha. to 48 million ha. and to use fertilizers from a mere 0.55 million tonnes during 1960-61 to 6.13 million tonnes by 1981-82. These measures lead to increase in agricultural production from 50 million tonnes in 1950 to about 130 million tonnes by 1978-79. However, in this process, the beneficiaries were mostly the big and medium land holders and the landless were left behind in the race. Even vital developmental activities like making of canals, tubewells and roads made large number of landless labourers lose their traditional employment. Due to the clearance of small village forests for extending the area under agriculture some of the village communities lost their source of sustained living. These activities triggered the migration of large landless population from villages to bigger towns and cities in search of employment. An example is that of Mooshar community in Eastern Uttar Pradesh; mostly landless, their traditional work was to gather firewood, honey, gums, flowers and fruits from the village forest and make a living by bartering these products. They made pattals (plates from leaves of palas trees) for supply to villages and towns. With the disappearance of village forests most of the Mooshar families are on the brink of starvation. Indeed many Harijan families engaged traditionally in making leather contrivance (*Moat, charasa,* for lifting water from wells) have been deprived of their source of livelihood subsequent to development of canal and tubewell irrigation. With the advent of roads many landless families which subsisted by keeping ponies and carts for transporting village commodities lost their source of livelihood. It is thus evident that many of the vital developmental activities for acclerating the pace of general development of the country have hit hard the landless poor of the villages.

Distribution of land

Immediately after independence our leaders tried to tackle the land problems. The Zamindari abolition, a mini revolution, was achieved in most of the States without any bloodshed—due mainly to the commitment of the leadership and great upsurge in the countryside on the eve of independence. Five million tenants of former estate holders became owners of their holdings. However, it was realised that even after Zamindari abolition many Zamindars and land holders continued to have large holdings. Various legislations to limit the land holdings were then enacted with a view to distributing the surplus land to the landless. Under the legislations, adopted during 1950s and 1960s, no more than 1.2 million hectares were declared surplus and only 0.7 million hectares were actually distributed. Rigorous implementation of measures during 1970s yielded additional 0.9 million hectares for distribution. Less than one per cent of the total agricultural land was thus redistributed in the whole process.

Some States adopted the measure for distribution of uncultivated and culturable wastelands belonging to Government to the landless poor. The lands distributed were extremely refractory in nature (*usar,* marshy ravine, semi-water-logged etc.) and could not benefit the poor. It has further been found that wherever landless people have been provided movable assets, often they have been usurped by the richer class of society. For instance, under Rural Development Programme, milch cattle were given to landless people, but they did not have sufficient means to arrange for the feed of the cattle particularly when the milch animal was dry. Therefore, they had to sell their milch animal to some other person who could afford to feed such cattle even when they were dry. It is thus evident that even such a well-intentioned development programme of land distribution for cultivation or providing a milch animal could not bring much relief to the landless class. It is, therefore, essential to develop a viable alternative that is capable of considerable resilience. It is in this context that improvement in the economic condition of the landless poor through the various programmes of Social Forestry assumes paramount importance. The fundamental approach in Social Forestry Project is to create a land resource which can, by and large be utilised by only those people who are prepared to work manually. Utilisation of the wastelands and other refractory areas by planting useful trees will create a resource that can be tapped continuously by only the poor.

Social forestry

The nature of work involved in Social Forestry Programmes is basically very arduous. It mainly con-

sists [illegible], raising plants in the [illegible], planting, watering etc. These works are mostly executed by the landless poor persons only. In Social Forestry Programme the species planted are such that yield edible flowers, seeds for oil extraction, edible fruits for nutrition and also many fodder trees, the leaves of which could sustain milch animals. Besides, there are many hardy tree species which yield bark, gums, and small wood for strating a chain of rural cottage industries. Many of the tree species will yield such produce which has been traditionally used by the poor people as a means of their sustenance. For example, the landless Rajbhar community will have small patches of forest from where they can gather firewood, leaf, gums and honey for their use or sale; weaver community can easily be settled on small blocks of Arjun plantations for producing tassar cocoons; carpenter community can be engaged in making furniture out of small timber available from such forests. The community traditionally engaged in oil extraction can be put on extracting oil from seeds of Neem, Mahua, Karanj. Communities engaged traditionally in collecting hide can develop cottage industries for curing the raw hide with tanning material from Babul and Arjun bark. This way large number of landless people can get regular employment on a sustained basis.

Key to rural development

In a recently published book "Social Forestry and Rural Development" the author has convincingly shown that by investing about Rs. 1000 crores a year for over a period of 10 years only, it is possible to remove the poverty of over 300 million people living below the poverty line within the next 20 years, by providing sustained means of gainful employment through creating and later utilising the tree based wealth in oherwise unproductive land in the country. The modalities of developing this new wealth will be such that there will be guaranteed flow of benefits only to the rural poor and that even if the 'haves' of the society want to usurp it, they will find it very difficult to do so.

The data presented in Table (at the end of article) indicates the quantum of mandays employment likely to be generated by investing Rs. 1000 crores a year for a period of 10 years. The total project cost will thus be of the order of Rs. 10,000 crores.

However, of late in some of the States the 'haves' of the society are trying to implement the Social Forestry Programme in a way that major benefit may go to bigger farmers only. When the first World Bank aided Social Forestry Project for Uttar Pradesh was formulated by the author in 1978, one of the major considerations was, how to maximise the employment of the landless poor on a sustained basis. It can be easily seen that if trees are planted on farmers' land only, then landless poor will be provided just a few days of employment in raising the trees. It was, therefore, proposed to take up planting on public lands such as community wastelands, vacant strips along roads, canals and railway track and degraded forest area as also marshy (usar) lands and semi water-logged areas.

The majority of the species chosen for public lands were such as may yield edible flower and fruits, leaf fodder for cattle and leaves, seeds, bark, gum, small timber etc. to be used in a variety of rural cottage industries. It is laid down in the project that Mahua flowers, leaf fodder, grass and fruits of mango will be collected free of cost by the landless poor. Even fire-wood is to be given on nominal price to landless poor. How this could be achieved was demonstrated at three places by the author during 1981. Flowers of August (*Sesbania grandiflora*) which make a nutritious vegetable and is available from the second year of planting were also given to landless poor. The leaves of this plant are an excellent cattle feed. By now the distribution of such produce to landless poor should have been a common feature. However, due to unhealthy approach of the officers, the progress is almost nil. Unless there is imaginative and sympathetic approach by the officers for Social Forestry Programme activity, the landless poor will continue to suffer. But in the programme of tassar cultivation many landless poor families have obtained sustained employment.

Planting trees in unproductive land

In some States there appears to be a greater emphasis on distribution of seedlings to farmers. It is obvious that with this emphasis major gainers will be those who own land and not those who are landless poor. Bigger farmers will, therefore, become bigger gainers. It is time when emphasis on planting trees in otherwise unproductive land owned by Government was given top priority. The available produce from such plantings must go to landless poor first. In fact, as in the case of tassar cultivation small areas containing 1000-2000 fodder trees or fuelwood trees or fruit trees etc. need to be earmarked to each landless family for sustained living on milch cattle and other uses of the tree. Similarly, other trees need to be earmarked to definite landless families. This approach is being emphasised practically in every seminar and discussions on social forestry.

Another danger which is lurking to snatch away the employment potential of landless poor even for such arduous work involved in Social Forestry Programme is that of the emergence of the Eco-development Task Force consisting exclusively of Ex-Servicemen. Ex-servicemen may be poor but are not below poverty line. In the larger attempt of wiping out rural poverty through Social Forestry programmes, ex-servicemen may be employed only when the landless poor have come up above the poverty line. The economic uplift of the landless poor particularly the class comprising the 'destitutes' must form the first charge in the budgetary provisions of the Seventh Plan.

Destitute groups

Again to quote Adiseshiah, "Out of a total of 668 million people living in our country, 347 million persons live at various levels of poverty. There are the extreme destitutes who are spending between Rs. 15 per person per month who are 3.5 million in rural areas and 0.2 million in urban areas. In the next level are 16 million people in rural and 1 million in urban areas who spend Rs. 15-21 per person per month.

The third level from the bottom comprises 43 million persons in rural and 5 million persons in urban areas who spend Rs. 21-28 per person per month. The fourth level includes 56 million persons in rural and 26 million in urban areas, spending Rs. 28-34. These 4 groups of destitutes number less than 200 million and the balance of 152 million are poor but not destitute. When it comes to policy and action to remove poverty which we shall deal with later, this disaggregation of the poor into the severe destitutes, other destitutes and poor will be important."

Employment guarantee

The Government of India has recently launched a new scheme called Rural Landless Employment Guarantee Scheme in which it is proposed to generate 300 million mandays employment by spending Rs. 500 crores during 1984-85. Social Forestry as a component of this scheme has only now been [illegible] whereas the author, way back in 19[illegible], [illegible] national irrigation journal, advocated that it [illegible] to increase the employment opportunity [illegible] create national wealth by instituting socia[illegible] schemes.

On 25th August, 1983, the Minister of [illegible] gave the information that the number of pe[illegible] below the poverty line during 1977-78 was [illegible] lion which has been reduced to 280 [illegible] 1981-82. It is probably for the first time t[illegible] large number of people have been brought [illegible] poverty line. We must remember that Socia[illegible] Programmes were launched in U.P. and Gu[illegible] ing 1979-80. It is the implementation of t[illegible] rammes among other rural development p[illegible] based on individual beneficiary schemes [illegible] made a definite dent in poverty line.

TABLE I

Assessment of employment generation (lakh mandays) through Social Forestry Scheme

Item	Year			
	1st	5th	10th	14th
Planting Work	3 52	3 52	3.52	..
Protection and Maintenance	.	3.76	4.71	1.90
Collection of products (Flowers, fruits etc)		0 13	0.76	1.63
Extraction of primary products		0.51	6 79	21.84
Marketing and subsequent processing		0 15	0.90	2 40
Dairy scheme based on leaf fodder		4 56	27 37	45.62
Mandays employment to be generated from establishing cottage industry from paper pulp (from Saljan & August)	.	0.73	1.46	1.46
Total mandays employment generated by one unit	3.52	13 36	45.51	74.85
Total Mandays Employment from 2000 units	7040	26714	91004	149690
Silk production from mulberry/Arjun .				
(a) Along road canals 100 km.	..	6	16	20
(b) Total silk production from mulberry for 200 units (2 lakh km)	..	1200	3200	4000
GRAND TOTAL	7040	27914	94204	153690
Per capita income per annum amongst 30 crores of people below poverty line	11.75	86.60	157.00	256.2[illegible]

INDUSTRIAL POLLUTION CONTROL

(Continued from page 6)

TABLE 2

Industry-Specific Pollution Control

Sl. No.	Types of Industry	Number of Units	Number of Units with Effluent Treatment Plant
1.	Sugar	300	104
2.	Distillery	128	34
3.	Caustic Soda	38	27
4.	Fertilizer	65	55
5.	Oil Refinery	13	13
6.	Man Made Fibre	29	22
7.	Integrated Steel Mill	7	7
8.	Textile (Cotton & Wool)	300	155
	Industries to be controlled in Phase I	880	417
9.	Pulp and paper	150	
10.	Pharmaceutical	120	
11.	Pesticide	50	
12.	Petrochemicals	10	
13.	Inorganic Chemicals	150	
14.	Dairies	50	
15.	Thermal Power Plant	15[illegible]	
16.	Non-Ferrous Metal	12[illegible]	
17.	Dye Manufacturing Large Engg. using Electroplating, Large Tanneries and Misc.	12[illegible]	
	Industries to be controlled in Phase II	[illegible]	
	Total	1[illegible]	

Mica industry prospects and constraints

P. Showkath Ali Khan

While discussing the varied uses of mica the author calls for steps to be taken to absorb Indian mica in its own industries lest the future of mica mining in India should be gloomy and the substitutes now on the rise may wipe out mica from the industrial field itself.

THE ECONOMIC development of a country depends to a great extent on the availability of minerals. For instance, coal and iron are the basic minerals needed for the growth of Iron and Steel Industry vitally necessary for the country's development. Similarly, there are other minerals like mica, manganese, copper, lead and zinc which are of economic importance. Then we have mineral fuels like petroleum, coal, thorium and uranium which are of natural importance. Besides, we have a number of minor minerals with varying degrees of utility to the economy.

Uses and varieties of mica

Mineral development is synonymous with industrial development of a country since minerals are essential raw materials for the core sector industries. Demand for minerals is a derived one so that their production hinges on the level of industrial activity. Demand for and supply of minerals, therefore, largely follow the growth and pattern of industrial development in a country. In India there is very little appreciation of the importance of minerals like mica, not to speak of the mineral industry. But some attention was drawn to the Mica Industry when the Government of India felt its importance during World War II.

The glistening substance on Christmas trees (Jack Forest) on Christmas cards and on certain decorated wall papers and in the sands of many beaches is the mineral 'mica'. But it has more important uses than mere decoration. With insulating properties in it and having high power resistance, it is indispensable in the field of electricity for the manufacture of electrical apparatus and appliances. It is the only material which can behave as a good di-electric even at a temperature of the order of 500 degrees centigrade and as such it is being found extremely useful in space rockets, missiles and telester transmission. The success of space research can be attributed to a great extent to mica communication and insulation field. Mica in powder form is also used in the preparation of various paints. It has also some medicinal properties and is used in the preparation of some Ayurvedic drugs.

There are several varieties of mica, but the three chief ones are (i) the white mica "muscovite"—a hydrated silicate of aluminium and potassium, (ii) the amber mica "phlogopite"—is a magnesium bearing mica and (iii) the black or brown ferro-magnesian variety known as "biotite." Of the three, muscovite—a name derived from "Muscovy" (Russia) where the mineral was in early use as window-glass, is by far the most important commercially; 'Phlogopite' has also some very important uses and 'biotite' is utilised to a considerably lesser extent.

Concentration of production

India is one of the sources of sheet (block) mica, producing between 70 and 80 per cent of the total block mica output of the world. Mica, like other minerals, has selective spatial distribution in India. The principal mica deposits are concentrated in three regions, viz., Bihar, Andhra Pradesh and Rajasthan.

Bihar accounts for 61 per cent of the total output in 1979 followed by Andhra Pradesh (29 per cent) and Rajasthan (10 per cent). The other States producing mica include Tamil Nadu and West Bengal. The production of mica in these States is very negligible. Bihar, Andhra Pradesh and Rajasthan are the principal States producing mica.

A total of 281 mica mines were under operation in 1979. In all, 134 mine owners were engaged in mica mining in 1979 of which 30 principal producers operated 138 mines accounting for 83 per cent of the total production.

Trends in production

There is a declining trend in the production of mica for the past two decades. The decline started in the early sixties. The following table gives the trends in production of mica crude for the 1970s :

TABLE 1

Production of mica crude in India from 1971—79

Year	Quantity in tonnes	Value Rs. '000
1971	15,099	21,193
1972	14,173	20,212
1973	13,830	21,602
1974	13,804	24,263
1975	11,501	24,392
1976	9,494	22,146
1977	9,352	25,577
1978	9,593	26,603
1979	9,073	26,764

Source : Indian Bureau of Mines, "Indian Minerals Year Book" 1976 & 1977 and 1978 & 1979, pp. 964 and 783 respectively and other IBM publications, Nagpur.

For the period covered in Table-1 the production of crude mica decreased by 40 per cent, whereas in terms of value it has increased by 26 per cent. Production has been stagnating in the late seventies around 9000 tonnes. In addition to the crude mica, there is production of waste and scrap mica It was 4,681 tonnes in 1978 and 5,107 tonnes in 1979.

Mica mining is a hit or miss business. The highly erratic character of occurrence of mica, lack of funds in the hands of mine owners to develop mining, the non-availability of required credit facilities from banks and financial institutions, shortage of power are the reasons for the decline in the production of mica in our country.

Export of mica

A comparision between the figures of mica production and exports reveals a large excess of exports over production. This may be due to extraction or recovery of splittings from dumps or waste heaps, extraction or recovery of mica from old dumps lying around mica mines most of which is seldom reported, export of scrap mica from factory dumps and presence of illicit mica which goes unreported. This has been continued for many years due to the methods of mining and management.

[illegible] oriented. Mica is exported out of India through the two major ports of Calcutta and Madras. The offtake of the U.S.A. is approximately 50 per cent, that of U.K. about 25 per cent and the remaining 25 per cent is distributed among Germany, Japan, France, Italy and other continental parts. The export trade of mica was entirely in the hands of the private traders till 1964. Afterwards, the Government of India took various progressive steps from time to time to assist the industry and promote exports. The Minerals and Metals Trading Corporation (MMTC), a government agency, entered the mica business with effect from January 24, 1972. In order to give full attention to the mica trade, the Mica Trading Corporation (MITCO) was created in 1973 as a subsidiary of MMTC. The objects of the Corporation (MITCO) are to bring stability to the industry, to help the weaker section of the trade and to give a general impetus and direction to the exports. Mica exports are routed through MITCO to the tune of 50 per cent and the rest can be handled directly by the traders. The following gives the exports of mica both manufactured and unmanufactured from India.

The ratio of unmanufactured to manufactured mica exports has declined from 5.6 : 1 to 3.1 : 1 and 6.5 : 1 to 2.1 : 1 in terms of quantity and value respectively. This change in the ratio is due to faster rate of growth of manufactured mica exports (12.63 per cent per annum) and a modest increase of unmanufactured mica exports (0.37 per cent per annum). In terms of value the respective annual growth rates were 31.75 and 5.92 per cent. It implies that increased export value is due to the price effect raher than the quantity effect. It also implies that the scope for export earnings can be further enhanced by increasing the share of manufactured mica exports.

The competition in the world mica market from other mica producing countries is very keen. Brazil is a keen competitor of India and the U.S.A., the largest buyer of Indian mica is understood to have begun to import Brazilian mica in large quantities. U.S.A. is also reported to have invested large amounts of capital for the improvement of mica mines and factories in that country. Synthetic mica being produced in foreign countries on commercial scale is also apprehended to have an adverse effect on mica exports from India. Against this background mica export promotion is a challenging task.

Future prospects

The present state of affairs in the industry does not project a rosy picture for the future. No doubt, export trade is very important especially when the mica industry is entirely dependent on export, but it should be realised that it is not in the interest of the country to allow one of its major industries to be at the mercy of the foreign consumers/traders particularly when so much of technical development as

(Continued on page 17)

Ideal age of marriage in a rural population

DR. ARUN KUMAR SHARMA

The customs and needs of rural population favour the marriage of a girl at an early age, far lower than 18 years. For boys the socio-cultural and institutional requirements favour their marriage at 21 and later.

THE PRESENT piece of research was undertaken with the objectives of the study :

1. To study the ideal age of marriage in the rural population;
2. To study the socio-cultural factors leading to the desirability of the expressed ideal regarding age at marriage;
3. to study the correlations of ideal age of marriage with some background variables; and
4. discuss the demographic effectiveness of the enactment of the law regarding fixing the minimum marriage age at 18.

The data for this study were collected from a random sample of 215 couples from sixteen villages of Mahewa and Ajitmal developmental blocks in Etawah district of U.P. Despite a great variation within sample, the villages selected for the study are relatively better in agricultural development and educational attainment; approachability of these villages is above average and the acceptance of family planning is normal. The field work under this survey design was conducted between December 1978—February 1979. The male respondents were contacted by the author himself and the female respondents by a locally hired lady investigator.

At the time of the enquiry, average age of wives as estimated from pregnancy roster kept by local health staff was 29.5 years and that of husbands was 37.6 years. Regarding the other background characteristics of the respondents, it should be described that they differed marginally from the general rural population. Among them there was a little higher representation of literates with primary or less education, landless labourers and small farmers, and low castes.

Analysis and results

Table 1 shows the deal age at marriage (IAM) separately for boys and girls as reported by the respondents. There is a significant but small difference in reporting of IAM for boys by male and female respondents. Also the women consider a significantly lower IAM for daughters than their husbands. This is obvious that the law that fixes the minimum age of marriage at 21 years for boys and 18 years for girls is at consonance with the IAM for boys but not with the IAM for girls. Regarding girls, people want to arrange the marriage of their daughters at an age that is less than the legally fixed. In the sample the real age at marriage of the female respondents was, however, much less : they were married at the age of 12.4 years and had *gauna* after a lapse of 2-4 years.

TABLE I

Ideal Age at Marriage

Husbands/Wives	Ideal age at Marriage	
	Boys	Girls
Husbands	21.9	16.3
Wives	21.2	14.8
Value	7.8*	12.6*

*Significant at 5 per cent level.

Though the IAM for girls is higher than the own age at marriage of the female respondents, the IAM

is below the enacted law and too low to create any impact on the reproductive behaviour. Longitudinal data on the nuptiality patterns in the study population are not available. Moreover, when the IAM is low, such data are hardly of any use to demographers. Some likely changes in the trend of marriage age can, however, be inferred from the subjective rationality of functions and dysfunctions of early and late marriage, and deep understanding of the phenomenology of marriage and reproduction in rural society. In the present exploratory investigation some aspects of disutilities or problems associated with early or late marriage were explored. In this context early refers to marriage age less than ideal and late to marriage age that is above ideal age.

Table 2 presents the subjective understanding of the problems associated with early marriages, as expressed by the respondents.

TABLE 2

Problems with Early Marriage of Girls

Problem	Percentage respondents	
	Husbands	Wives
1. Girls are too young/not fully mature (bodily)	21.4	33 0
2. Leads to health problems in girls	22 8	24 2
3. Interferes in education	23 7	20 5
4. Immature mind	19 1	8 4
5 Too young to bear family responsibilities	5 6	21 9
6 The girls are deprived of parental love	0 0	7 4
7 Uncertainty of groom's career and status	9.8	7 0
8 More offspring	32 1	18 6
9. No loss	10 2	3 7
Second response	44 7	44.7

As is obvious from Table 2, inspite of low IAM people do realize the disadvantages of early marriages. These relate to health, fertility, education, empathy, adjustment, and career risk. With the growing concern for the daughters' education, health, welfare and economic security the villagers do recognize the evils of child marriages and feel a need to marry off the daughters a little later. This can be emphasized that in the transition from the feudal to the capitalistic mode of production, and with the aggravating poverty, unemployment, changes in family organization, and increasing individualistic tendencies, there is a change in the need patterns, regarding nuptiality system in the rural areas. People do no more consider marriage of an unemployed, unsettled youth desirable unless he possesses sufficient land to support the newly established family. Even in such cases other modernizing factors are pushing up the trend in marriage age. Nonetheless, there are some factors which keep the IAM for girls low.

TABLE 3

Problems with Late Marriage of Girls

Problems	Percentage of respondents	
	Husbands	Wives
1. Difficulties associated with arranging bridegroom	15.8	29.8
2. Defamation in society	7.9	19.5
3. More dowry is required	3.7	11.1
4. The girl may go wrong (sexual deviant)	36.3	16.3
5. Problems of adjustment in new home	1.9	5.6
6. Sexual frustration in girls	7.9	0.9
7. Loss of beauty of girls etc.	9.8	3.7
8. Other reasons	1.9	..
9. No loss	21.9	21.4
10. Can't say	1.4	..
Second response	8.5	8.3

There are two most important reasons against the late marriages. (1) The parents are apprehensive about the possible social (sexual) deviation of daughters when they are grown up as they have very few channels for self actualizaion and gratification, and empty mind is devil's workshop. Unlike urban girls they are generally not engaged in education etc. They have low need for achievement. Their level of awareness is low. Also the means of entertainment are absent. There is a genuine fear that unfulfilled sexual desire in girls may lead them to illegitimate premarital sexual relations. Social sanctions, therefore, work against the raising of the marriage age for girls. (2) If some people want to go against the social norms, and postpone the marriage of daughters, they find it difficult to get suitable bridegrooms. This is another interesting fact that the amount of dowry is less in the child marriages and as the age of a boy increases and his career becomes more and more clear, the dowry demand also increases. As one respondent says "We are poor people, we do not have any wealth to give as dowry. So we would like to do *kanyadaan* as soon as our daughter becomes 12-13 years old and fold the hands (an act of showing regard). Whatever is written in her fate, that will happen to her."

Norms and customs

As regards the variation of IAM in different sections of the population, Table 4 gives the values of correlations of IAM with certain background variables. Most of the correlations are weak and suggest the universality of norms and customs regarding marriages. But phenomenologically speaking the biographic situation of each respondent is different and so even the same answer with regard to IAM may reveal different experiential modes and life worlds i.e. different reasoning. For example what is normative for one may be logical for another. This is only education that shows a significant and moderately high correlation that is positive.

TABLE 4

Correlation Between Background and Ideal Age at Marriage for Girls (Wives)

Background variable	Correlation
1. Age	+.07
2. Education	+.62*
3. Occupation of husband	+.13
4. Caste	—.08
5. Own age at marriage	+ 10
6. Family size	+.11

*Significant at 5% level.

The value of R^2 in linear multivariate analysis of IAM wih the independent variable shown in Table 4 comes out to be. 41 that shows weak predictability of the regression line.

Finally, this is important to realize that even if the enacted law is successful, this is not going to be demographically effective. Interpolation of 5-year marital fertility rates published in Family welfare Year Book, 1979-80 shows that even in a high fertility region as U.P. contribution of ages upto 17 in the total marital fertility is, only .59 while the total marital fertility rate is well-nigh 8.1. In India (rural) as a whole the contribution of ages below 18 is .63 and the total marital fertility rate is 6.8. In the study population of the present research, the completed family size was above 8.1 children and the contribution of ages below 18 was .72 children.

In brief, the mores, customs, and needs of the rural population are not in consonance with the law that fixes minimum age at marriage for girls at 18 years, though for boys the minimum, legal marriage age and socio-cultural and institutional requirements are consistent. Moreover none of the background variable except education tends to correlate with ideal marriage age significantly. The predictability of linear regression model of IAM with age, education, occupation, caste, own age at marriage, and family size is only 41 per cent. Last the demographic impact of the law regarding marriage age is not very significant, especially when this is known that late married women try to make up in early reproductive period Fertility reduction can only be achieved by diffusing the birth control methods and shortening the reproductive period by attacking at the other extreme (possibly through sterilization) of the repreductive span.

Mica Industry

(*Continued from page* 14)

well as industrialisation has taken place in India. The floor price fixed by MITCO on mica exports has adversely affected mica production in India. As the floor price is high, the foreign demand for Indian mica is slackening. This has resulted in the accumulation of stocks in godowns and stopping of mining operations. So, the floor price has to be reduced to allow the industry to survive. If that is not feasible, domestic demand for mica is to be accelerated to save the industry. No reliable data are available on the consumption of mica within the country. But the Indian Bureau of Mines has estimated that about 500 tonnes of block mica [illegible] lised in electrical goods like toasters, heaters, and insulating material in various electronic [illegible] ment.

It is now high time for the men in the industry [illegible] especially, the proprietors of the big undertakings to join hands in common interest and take positive action so that this valuable mineral instead of being exported can be brought into industrial uses within India by building up electric and other industries which will consume her own mica as raw material. To achieve this objective, it is essential that a serious 'R and D' effort should be started without delay. The development of industries consuming mica, i.e., mica based industries are to be included in the Five Year Plans. Unless steps are taken to absorb Indian mica in her own industries, the furture of mica mining in India will be gloomy and the substitutes now on the rise may wipe out mica from the industrial field itself.

Conclusion

Mica is one of the important mineral industries of India. Mica and its products have a variety of uses and applications. Like other minerals mica has selective spatial distribution in India. It is concentrated mostly in Bihar, Andhra Pradesh and Rajasthan. The production of mica crude has been declining in the seventies. Although there is keen competition, exports of mica both manufactured and unmanufactured have shown a rising trend. The ratio of manufactured mica to unmanufactured has shown a marked improvement both in terms of quantity and value. The industry needs to be diversified at the domestic front in order to improve its future.

Essentials of Japanese management

DR. M. N. MISHRA

Japanese management is marked by enlarged scale of enterprise, democratisation of management, competition in innovation, higher wages, shortage of labour, stiff international competition. Yet the technique of Japanese managers is bewildering the western management experts as it has been more successful than the western management. The author herein discusses features of Japanese management

THE TECHNIQUE of Japanese management is bewildering the western management experts because it has been more successful than that of western management. In Indian context, we are prone to accept Japanese management rather than western management. We have to adapt the management technique to suit the needs of indigenous requirements. The Japanese management has certain special characteristics suitable to the management environment of India. For the economic development of the country, the management reformation and adaptation and development of human resource is essential alongwith capital mobilisation and innovation of science and technology. Whereas capital investment and technological innovations are two main pre-requisites, the development of human resource is instrumental to economic development.

The management problems and process cannot be separated from the aspects of human being. The management problems must deal with challenge of the impact on human nature. Management is oriented in the problems of human relations. Therefore, it must deal first with human problems. Since there exist religions, cultural, racial and historical backgrounds differences, the suitable and effective management should be designed individually. The capital investment and technological innovation are dependent on the susceptibility of management.

The Japanese management accepted the western management, but have not accepted social changes and social values. Japan has succeeded in harmonizing modern western techniques and management with her non-western type of traditional social systems. The Japanese management is gifted in harmonizing and integrating unlike elements

Basis of Japanese management

(i) The Japanese management has been developed by interwearing modern techniques with her traditional social system, i.e. paternal family system which has brought about cooperation necessary for newly developed enterprise. Management is carried out very effectively by employing the traditional approach of the paternal family system. It is strongly considered that an enerprise is one family. The president is the father and the employees are family members. The spirit of harmony is strongly preserved and the cooperation within the enterprise is further strengthened through the sense of family relationship. There is no difference between private lives and work lives. In the minds of the employees their work life is equal to their private life. The employers are concerned with the private lives of their employees which is reflected in their management of the personnel function.

Personnel affairs in Japanese management are particularly stressed. Personnel managers have a very good chance of being promoted to the top. Persons having the ability and personality to manage people are more highly evaluated than those who can only drive actively the business of their enterprises. The Japan productivity centre carried out a survey in 1969 to find out the key factor of success of management in America and Japan. It was disclosed that the most important strategic factor for success in business in the United States was finance while in Japanese business, it was personnel.

(ii) The Japanese management realised that the rapid growth of an enterprise depends not only on the strength of its management but also on the influence of environmental conditions surrounding it. The success of Japanese management was also on account of favourable environmental conditions. The favourable conditions were possible due to liberalization of the economy resulting from the democratisation policy following the end of the Second World War. The liberalization of agriculture through agricultural land reform, the liberalisation of labour focused through labour unions, the liberalization of industry through the deconcentration of Enterprises Law and the Anti-Monopoly Law, and the establishment of free competition through the government controls and protective economic policies have brought about greater activity and prosperity among enterprises. To bring life back to the enterprises and to supply them with the needed recovery capital, the government skillfully carried out a financial policy based on the creation of credit. The loaning policy of the Recovery Financial Bank, the Development Bank, and the Bank of Japan, among others. successfully brought about the recovery and high growth of business, being backed by the development of industrial power and the high rate of saving backed by the ability and policy of Japanese management. The Japanese management perceived the opportunity of world prosperity and brought above the recession economy of Japan.

The Japanese management got the advantages of the industriousness of Japanese people. Their homogeneity and strength helped the management. The technicians and managers display extremely high abilities for industrialisation although Japan is poor in resources. The Japanese management imported most sophisticated techniques but succeeded to synthesise them as per their own requirements.

(iii) The personnel management has unique features. The traditional, social and cultural characteristics of management are extremely significant in this regard. The group motivation and paternalism of Japanese society form the core of the traditional characteristics of Japanese management. Collective cohesion strengthened management in Japan It is noted that the feudalistic tradition and culture was discarded because it was an obstacle of modernisation of management. The Japanese management self examines the traditional nature to assess its suitability in modern management. Japanese management adopt itself to the environment of an industrial society. The traditional nature of Japanese management itself has been changing within the process of industrialisation. Japanese management synthesise modernisation and traditional nature to bring about an effective integration of the two.

Characteristics of Japanese management

1. Family spirit in management

The Japanese management is based on the spirit of family management. The employer is father and the employees are family members whereby each of them looks after the interests and welfare of other. Their work life is equal to private life. This is the reason the employer and employees are not against one another. With this spirit the employees are devoting their might for the development of the business. The employees feel that it is human power which is the most important for the success of the business and, therefore, reward them adequately.

2. Lifetime Employment

With the family background Japanese management has taken the feature of life-time employment The employees are considered as members of an organism which is the enterprise although contracts are made between the employer and the employees superficially modern. Employees are expected to stay until their retirement and they, themselves, are reluctant to change their present position. When an employer hires a new employee, he is equally expected to look after the employee until his retirement. If the employee is found unfit or useless, the employer will never dismiss him. This life time employment system is often misunderstood among western management as being required by law. But, this is not legal requirements; it is merely a customary practice based on Japanese thinking. The life time employment, if proved an obstruction to the flexibility of an enterprise, is remedied by shifting this inflexibility on to smaller enterprises and subsidiaries. The lifetime employment is supported by family type management and the group motivation based on Japanese attitudes. The efficiency of each employee is important but greater emphasis is placed on the length of service of the employee and his loyalty to the enterprise. The employees are secure in their position under the lifetime employment system which in term tends to highten loyalty and deeper group concerns which are all to the advantage of a more effective management.

3. Motivational System

The family system requires some motivational system for efficiencies for which the Japanese management has prescribed ranking system to denote status within the company. It is designation as 'Sanji' and 'Shuji' etc. to denote system, but this is merely a supplementary role to the functional job system. Wages are based more on the seniority ranking system than on job and work performance. Wage system is more a compensation to the employee for his efforts in working for the enterprise rather than for a direct compensation for individual jobs and work performance. It has been considered the form of a kind of livelihood guarantee. Importance is placed on the overall stability and harmony of the company as a whole. Expectation is placed on the effects of group effort. The gains under this effect are more than enough to offset the inefficiencies of excess labour. Management is exerting efforts towards group motivation through the systematizing of lifetime employment. The unified efforts of such group cooperation and motivation are the spirit of the Japanese management. The group motivation has penetrated into the trade unions which are organis-

ed around each enterprise and are generally in concert with management. The labour, management relationship in Japan is good and it promotes constant growth of management. The enterprise tries to find out work for the large number of employees retained on its payroll until their retirement. The management should oblige to expand the scale of their business to find new jobs for them. Subsidiary companies are often used for the purpose of providing employment for employees retired from the parent company. The growth of the enterprise becomes an indispensable factor under the life time employment system. Management is considered a living entity and employees are part of the living entity. Collapse of an enterprise would mean death both to management and the employees.

4. Group management

The Japanese management embodies the group consciousness of the Japanese. The Japanese people have racial homogeneity and a collective nature. The Japanese management is an organic structure. This differs from the mechanical structure of the West. It is a closed type lifetime employment. It is a 'living entity' with a spirit and a soul. Individuals are positioned as members of this common entity. Management cannot claim the enterprise as their personal property. They cannot sell the organisation. The opinion of trade union about the merger, rationalisation etc. is an important factor. The bankruptcy is avoided by reorganising the enterprise. Japanese management, rather than motivating the efficiency of each employee, places importance on the motivation of the group as a whole. The efficiency principle will be most unwelcome phenomenon in the lifetime employment. If the efficiency to promote were to be fully implemented, a feeling of insecurity would arise among the common employees in those companies where lifetime employment is carried out, which would in turn lower down the morale of the group. Similarly, implementation of an individual responsibility system would meet with strong resistance from those employees accustomed to group action. In order to promote cooperation within the group, it is necessary to consciously observe the responsibility of each individual. Group consciousness and a common spirit make this possible The group consciousness of Japanese management produces a unique method of decision making in management, with the authoritarianism of paternalism, group consciousness is quite strong in the decisions made by Japanese management. Japanese management consists of senior people. They encourage opinions and comments from the bottom and their function is to unify these opinions and comments. The decisions based on group consciousness are becoming more pronounced.

5. Decision making process

The decision making of Japanese management is taken in the form of 'Rindi' under which (i) the subordinates will submit their plan to their superiors for a decision on important problems concerning management (ii) the plan is also routed around to the related positions at the time of submission, and (iii) the submissions are made on a standard form which is used for confirmation. Under this system, the decision is taken by the entire group, which is different from the approval system of West. The person preparing the decision paper routes it to the people concerned. The person receiving the paper places his stamp on it and enters any comments he may wish to make. In this way, the paper circulates from person to person until it finally gets to the top. If there is opposition somewhere up the line the report is sent back to the initiator. Thus, the group as a whole will have participated in the decision making. The method of circulating written documents is resorted when it becomes impossible as the group becomes larger. If the group is small, face to face discussion is made to arrive at a particular decision. The problem of 'red tape' may arise under this system. Therefore, the authority for decisions at the top is delegated to lower levels. Measures are being taken to simplify the procedures and increase efficiency. The scope of independent decisions is made clear and widened. Now, unnecessary circulation of paper is being avoided and only the persons concerned get together to make decision directly.

The Rindi method is becoming obsolete as per the advancement of delegation of authority. The Rindi system now becomes simply a reporting matter to the top management. This system is being used by Jomukai (meeting of top management) as the technique for discussion and decision there or is used as a confirmation of the decisions taken. The Rindi system under budget system has become that of maintaining records. The modern management is replacing the Rindi system. But, it does not mean that the Japanese management is adopting western management. The group decision making itself continues to be a feature of Japanese management. It is consensus through discussion. Before a formal decision is made by a formal organ (committee etc.) informal discussions are held among the people concerned where opinions are exchanged and adjustments are until a consensus is reached. A decision is not made directly by the formal committee but an informed decision is first reached among the people concerned within the group and then submitted to the committee as a formality only. The Rindi method is used today to formally confirm the decision already arrived through the discussions. Much time is required to reach a decision by consensus through discussions where all the persons concerned will have participated in the final decision-making and where the will of the group is reflected in the decision. Thus, the group is motivated and this leads to greater group activity. It reveals the typical character of Japanese management which is better than that made by a single individual.

The group decisions may tend to become only run of the null decisions and result of individual irresponsibility. Creative and expert decisions would be difficult to make. In order to correct these defects it is necessary to establish job descriptions, responsibility and authority as well as to limit the scope of the group involved in the group decisions. The advantages of group management is in fact that the

(*Continued on page* 27)

Contribution of public enterprises in economy

DR. G. N. Seetharam

The public sector in the United Kingdom is active in all sectors of the national economy. The nationalised industries have particular impact in the fields of energy, public transport, communications and iron and steel. They are also leaders of technology.

Public Corporations in the United Kingdom can be sub-divided into the nationalised industries, Central Government trading bodies, and local authority trading bodies.

This sub-division is carried on mainly on the basis of the extent to which they are engaged in sale of goods and services and the extent to which revenue is derived from their customers.

Nationalised industries are identified as: "major" if they have (along with subsidiaries) more than 50,000 employees. There are nine of them : National Coal Board, British Gas Corporation, Electricity Industry (England & Wales), Post Office, British Railways Board, National Bus Company, National Freight Corporation, British Steel Corporation, and British Airways Board.

Mixed economy enterprise comes under private law and hence legally remains a private company even when government has taken majority equity holding. Usually public accounts do not take into account the impact of these companies and hence there is difficulty in generalising about the role of public sector as a whole.

Most of the nationalised industries were nationalised in the early years after the Second World War. A few other enterprises were made into corporations in the late sixties e.g. British Railways Board, Post Office, etc. Both the major parties of the British political spectrum, the Conservatives and the Liberals, have broadly agreed on the necessity of public corporations.

There is a complex system of inter-action between the nationalised industries and the government in the process of formulation of policy and implementation. For example decisions on nationalised industry capital expenditure come at a number of stages :

1. Major strategy reviews.
2. Annual reviews of corporation plans and investment programmes.
3. Project approvals.
4. Financing arrangements.

Strategy reviews usually take place with the change of government. Generally the sponsoring departments are the main participants on behalf of the government though the Treasury is also involved.

Annual investment review is statutory and is presented together with the corporate plan. This is discussed by the ministry and the treasury and later approved by the ministers.

All significant projects have to go through project appraisal and these are usually dealt with the department though in some cases the Treasury may be involved.

Both departments and the Treasury are involved in arrangements of borrowing.

During the process of implementation of these 'control systems' tensions are generated. Tensions

are there between the sponsoring ministries and the treasury. A recent study has pointed out certain features of the relationships between government and nationalised industry[1]

1. There is a lack of trust and mutual understanding between those who run the nationalised industries and those in government (politicians and civil servants).

2. There is confusion about the respective roles of the boards of nationalised industries, ministers and Parliament, with the result that accountability is seriously blurred.

3. There is no systematic framework for reaching agreement on long term objectives and strategy, and no assurance of nationalised industries and assessing managerial competence.

Inspite of this study no changes have been made in the control systems. Control is to be exercised through target rates of returns on investment supplemented by specific performance indicators appropriate to each particular industry.

Pricing Policy

Pricing policy of the nationalised industries is set forth in command 3437 (1967) according to which the main consideration in the long run determining prices is the cost of supplying on a continuing basis i.e. long run marginal costs. Government intervenes in the price fixation process and sometimes market pressure forces a different criteria for pricing. For example in British Rail pricing policies are primarily determined by market factors.

Regarding investments the government guideline is that the economic value of investments cannot always be measured by reference to the financial return to the industry concerned. Many investments also produce costs and benefits which will provide a good economic justification for them. .where there are grounds for thinking that the social costs or benefits to diverge markedly from those associated with the alternatives, the government will take this into account when assessing this investment. There have been inconsistencies in the guidelines provided by the Government. For example, the general guidelines on pricing, test discount rate and financial objectives are incompatible with individual nationalised industries due to the existence of loss-making operations retained for wider social reasons but not covered by specific subsidies. Many enterprises are unwilling to apply the test rate of discount to a high proportion of investment which is for replacement or otherwise unavoidable. As many nationalised industries cannot and do not fulfil the guidelines on pricing and investment and appraisal. The overall resource allocation objectives cannot be fulfilled All this has led to reservations as to whether the financial objectives have provided any real incentive to efficiency.

"By any standards, the nationalised industries occupy a central place in our (British—GNS) economy Together they account for more than a tenth of the national product and nearly a fifth of total investment. The four largest employers in the country (after central govt.) are nationalised industries. As suppliers they occupy a dominant position in energy, communications, steel and transport. They account for about a third of all the plant and equipment bought by British industry and for several sectors of industry they are the sole domestic customer"[1]A. Public Corporations give employment to 8.0 per cent of the labour force. Of Public Corporations nationalised industries account for more than four-fifths of output and employment. Further, public corporations account for 19.0 per cent of the fixed investment in the U.K. economy. The nationalised industries have particularly strong impact in the energy, public transport communications and iron and steel areas. Nationalised industries also have a strong impact on foreign trade through import substitution in energy and steel. The nationalised industries as buyers inevitably influence the investment policies of those suppliers in areas of product and technology where international market opportunities are good. Also, nationalised industries are leaders of technology. For example British Gas and the Electricity Industry have moved through massive technological change in the past 2 decades. There is a reasonable judgement that the tehnological policy exercise by nationalised industries has had influence over increasing exports But inspite of all this there has been a decline in internal funding mainly due to a policy of price restraint, and the public corporations were in the 70s dependent on government for revenue funding and net capital.

The 'mixed enterprise' sector

This refers to the growing involvement of the British Government in the 'private sector.' This has been led by assistance by government to companies and sectors in economic difficulty casually to protect employment and maintain some social objectives and to guarantee a public involvement in certain profitable growth sectors like oil. With this in view the National Enterprise Board has been set up in the mid-seventies. State finance has been provided over the years directly and indirectly to British industry. A number of tax incentives are given for capital investment in industry specially in the so called development areas. Investment grants were introduced in the mid-Sixties as cash grants with a view of helping those branches of indusrty in those areas of the country where the government wished to bring additional investment. Regional development grants were introduced in early Seventies with accent on regional development. Various grants of assistance were and are being given under local employment act. These grants are linked to the provision of new employment or in some cases maintenance of existing employment. On the whole these schemes are designed to promote modernisation, technological innovation, improved management, labour efficiency and regional development.

In addition to these measures there are a significant number of companies in the U.K. which are wholly or

1. Nationalised Indsutries/Their role in the economy and control in the future/H.M.S., Nov. 76.

1. "A study of U.K. nationalised industries, their role in the economy and control in the future" NEDO/H.M.S.O. Nov. 1976.

(*Continued on page 26*)

Poor get less of rising world incomes

In a number of countries income distribution has improved over the past two decades while inequality has widened in others. Developing and developed countries alike have taken steps for a more equitable distribution of income. The world incomes rose by 65 per cent but the poorest nations got the least benefit from this growth, says the ILO World Labour Report.

The world as a whole witnessed a record 65 per cent rise in income per head of population over the 20 years between 1960 and 1980, according to the ILO World Labour Report.

But the poorest nations got the least benefit from this growth, while the industrialised nations prospered at a faster than average rate, the report says.

Nations with an average per capita income of 260 dollars in 1980, for instance, recorded only 1.2 per cent increase in per capita income, compared to 3.6 per cent in the industrialised countries of the West.

For the industrial economies of Eastern Europe, the figure was 4.2 per cent. The highest rate was a record 6.3 per cent for oil-exporting countries.

Even with the slow progress in many developing countries, the median rate of growth in per capita income of all countries was about 2.8 per cent per year. This represents an increase in per capita income, over the 20-year period, of 65 per cent.

Higher quality of life

Overall, this has led to significant improvement in what the ILO report describes as the "quality of life". Life expectancy has risen almost everywhere. The improvement is seen most sharply in the low income countries, where life expectancy increased from 42 years in 1960 to 57 years in 1980. Infant mortality has also declined, and there are more doctors and nurses per head of population.

Progress in education has been equally dramatic. Over 90 per cent of all children of the developing countries now attend primary schools compared to 76 per cent 20 years ago. Enrolment ratios in secondary schools have more than tripled and enrolment ratios in higher educational institutions have doubled.

Some lagged behind

"The 1960s and 1970s were a period of quite rapid growth, probably unprecedented on a world-wide scale, but a growth which was far from uniform, with some countries lagging far behind", the report notes.

For 11 countries with a population totalling 89.1 million, income per head declined between 1960 and 1980.

While some 100 states experienced growth in per capita income for their 3 billion people, this has not meant a rise in living standards for all the people in these countries.

In many cases, there was highly uneven distribution of income. Indeed, while disparities in income have been relatively low in Western European countries, among developing countries they were highest in Latin America. They were lowest in Asia and the Pacific region. The report notes that among some of the poorest countries studied by the ILO—Bangladesh, India, Malawi, Tanzania and Sri Lanka—only Nepal recorded high income disparities. Data for the People's Republic of China and a number of other countries with a combined 1980 population of 1,227 million are not available.

In a number of countries income distribution has improved over the past two decades while inequality has widened in others.

Developing and developed countries alike have taken steps for a more equitable distribution of income. Land reform, co-operative urban production units, government expenditure, direct and indirect taxation are among the measures which have been tried. But their impact has not always been uniform and in some cases has even led to worsening of the income gap, the report adds.

Survey on social-economic conditions and awareness of IRDP

The survey revealed that the villagers were mostly unaware of IRDP schemes. The few who knew about loan schemes under IRDP appreciated the plan for facilitating credit at low rate of interest. Their difficulties included lack of information about details, procedural delays and expensive bribes they have to give to sanctioning authorities.

THE PLANNING Forum of the Ayya Nadar Janaki Ammal College, Sivakasi, (Tamil Nadu), decided to conduct a survey to find out how far the schemes of Integrated Rural Development Programme (IRDP) have reached our villagers.

The survey was confined to Injar village which lies 6 km. to the west of Sivakasi. It has 189 families with a population of 749. All the households in the villages were surveyed. The census method of enquiry was preferred rather than sample method.

Social conditions

The child population of the village is 34.4 per cent. The corresponding figure for India is 41 per cent. This indicates a declining trend of birth rate in the village. Regarding the size of the families, the average number of members in the family for this village works out to 4. This is somewhat below the All India Level figures, which is 5.3. As is common in all villages, 50 per cent of the heads of families are illiterates.

The village has a primary school providing education upto 5th standard. Inspite of this facility, only 99 children (56 boys and 43 girls) are attending the school, while 34 boys and 45 girls are not attending school. The main reason for not sending the children to school seems to be economic backwardness.

Expenditure pattern

A vast majority of heads of households depend upon agriculture—either tilling their own soil or as agricultural labourers. 58 persons work as industrial unskilled workers, some eight are self-employed persons like pump fitters, masons etc.

The expenditure pattern of the villagers show that a greater proportion of the income is spent on necessities like food and clothing. Majority of households live from hand to mouth. The propensity to save is almost not existing. Of the 189 families only 9 are accustomed to savings. They are invariably people employed in government services.

Out of the 189 families, 153 families are indebted. Loans are often taken for unproductive purposes. The unorganised sector plays the dominant role in providing finance to these rural poor. What the All India Rural Credit Survey Committee observed in 1954, seems to be true even in 1983. The grip of the money lenders as well the unorganised sector sources have not loosened. The effectiveness of agricultural institutional financing is not satisfactory. 71 persons who haven't given exact periods for repayment are of the opinion that some day or other those loans will be cancelled by the government. This reveals the irresponsibility of the people.

Among the 189 heads of families interviewed only 18 persons are aware of IRDP scheme, 159 people are not aware and the remaining 12 did not make any comment. Again we tried to ascertain from 18 persons who are aware of the scheme, about the number of schemes familiar to them. Only one person was capable of giving a list of 7 schemes.

The villagers, as the survey reveals are mostly unaware of the IRDP and those who know about IRDP

(Continued on page no. 28)

Potential of forest-based industries in Kalahandi district

Satyabadi Misra

Kalahandi district has an immense potential of forest-based industries. With attempts of the developmental agencies at motivating the entrepreneurs, establishing and promoting new schemes and provision of required infrastructure, forest-based industries will get enough impetus to ensure all round development of the people including the tribals therein. Besides, forestry is vital to national economic development and the ecological balance.

KALAHANDI is the South-Western district of Orissa bound by Bolangir and Koraput districts and Raipur district of Madhya Pradesh. It has a total geographical area of 11,772 sq. kms. comprising 12 tehsils out of which 50 per cent area is covered by hills. Forest covers 64.06 sq. kms. with 57 per cent of the total geographical area of the district. Lanjigarh and Bhawanipatna tehsils have continuous dense forests with valuable plants of teak, sal, safaz, bija, asan with bamboo, kendu leaf, mahua flower, tamarind and myrobalan as minor forest products. Nawapana forest produces quality teaks. Graphite, bauxite, manganese, quartzite are the major minerals of the district. The district has 70 kms. railway lines and 5000 kms. of roads; out of 2653 villages 350 are electrified. Various banks have around 30 branches in the district.

As per 1981 census this district has a total population of 11.63 lakhs out of which 95 per cent live in villages. Around 35 per cent of the district are tribals. The life of tribals is closely interwoven with forest. Various operations and collection of forest products provide employment to the tribal people living in and around the forest.

Industrial base

This district continues to be one of the most backward districts of the State having a very poor industrial base. It has few conventional types of small industries like saw mills, rice and flour mills and few fabrication and manufacturing units. The single medium sector unit at Kesinga produces vegetable oil. The large units viz. Kesinga Spinning Mills and Konark Wood Panels Ltd. at Kesinga and Narla Road respectively are under implementation.

The progress of SSI units in Kalahandi was remarkable in 1980-81. During the year alone, 101 units were floated whereas upto 1979-80 there were 346 units in operation with an investment of Rs. 3.15 crores employing 3500 people. In forest industry sector 14 such industries were functioning in 1980-81 with investment of Rs. 3.48 lakhs employing 86 people.

The Government of India work force has identified Kesinga as an industrial growth centre and has suggested five large/medium industries such as conveyor belt, spinning mills, paper mills, Industrial Alcohol and Core veeneered Board with an investment of Rs. 37.4 crores employing around 3,000 people.

Why Kalahandi is industrially backward ?

Kalahandi remains backward due to non-availability of proper and adequate industrial infrastructure and past neglect of the developmental authorities. Available resources (mostly forest and mineral) have not been properly exploited and put to any industrial

use. Even many places having rich mineral resources have not been surveyed and their potentialities revealed so far. The district suffers from entrepreneurial shyness and inattractiveness for the outsiders as, in many proposed industrial growth centres, modern civic amenities hardly exist.

Besides the importance of forest in national economic development and the ecological balance, the forest produce are the main source of revenue to the State Exchequer. Kalahandi has a much favourable agro-climatic condition for natural vegetation and aforestation. Forestry is the main source of asscts and earning for the tribal inhabitants of the district. They live beside the hills and maintain their livelihood by consuming and selling forest products. If the occupational pattern and the quality of life of the tribals are to be improved, the forest utilisation must be efficient, procurement of forest materials must be streamlined and reasonable wages be paid to the tribals doing this work. Utilisation can be still profitable by putting the resources to various alternative industrial uses and absorbing more persons in permanent employment in the manufacturing system.

Forest-based industries suggested

Basing upon the present and potential forest resources the following sophisticated industries are suggested for the district. Processing of Mango, Straw Boards, Handmade paper, Plywood, Linseed processing, Myrobalan extract, Extraction of [illegible]. As per report the State Government of Agriculture & Statics for 1981, mango groves are found in [illegible] hectrs. in Kalahandi forest, the Department of Horticulture has also introduced many good varieties which can nicely supply a 500 tonne mango processing unit. Linseed is cultivated in 17,000 hectrs. and total paddy area was 269,000 hectrs. yielding 68,000 tonne and 26,98,300 tonnes of linseed and paddy respectively. These raw materials are quite sufficient to run units of straw board and linseed oil. Capacity, investment, employment and market perameters of these industries suggested are given at the end.

Conclusion

A backward district like Kalahandi, shows a fairly good potential in considering the above forest based units. For this (a) the respective attempt of the developmental agencies at motivating the entrepreneurs, (b) establishing and promoting new schemes and (c) provision of required infrastructure are the basic ingredients of development. Further, the promotional agencies are to provide maximum support, and go out of the way to invite the entrepreneurs for setting up industries. Of course, each effort will fail unless the entrepreneur is prepared to initially live without some of the amenities of life and has an attitude to rehabilitate the tribals through his adept entrepreneurship.

ANNEXURE I

Forest-based Industries proposed for Kalahandi District

Sl. No.	Industries suggested	Investment (Rs. in lakhs)	Capacity (in tons)	Market opportunities	Employment
1.	Mango processing (Mango pulp squash)	15 0	600	Export	150
2.	Straw Based products (Straw Board)	20 0	5000	Orissa	90
3.	Linseed Oil (Paints & Varnishes)	3.0	150	Orissa/Export	25
4.	Veneers and Splinters	3 0	3000	Orissa/Neighbouring States	25
5.	Myrobalan Extract	3.0	25	Can be sold locally to leather tanning units	30
6.	Handmade Paper (writing & decoration)	4.0	1000	Local	30
7.	Plywood	20.0	50,000	Household and office use. Can be sold locally	80
				TOTAL :	430

Contribution of public enterprises in economy

(*Continued from page No.* 22)

partly owned by departments of the government but from the national income and expenditure point of view is not formally included in the public sector. The National Enterprise Board, a public sector corporation, has a 100 per cent or majority shareholding in a number of companies like British Leyland, Rolls Royce, Data Recording Instruments etc It is also a minority shareholder in a number of companies. The overall responsibility of the National Enterprise Board are :

(a) to act as a new source of investment capital for manufacturing industry, and in providing finance to take a corresponding share in the equity of the concern;

(b) having an enterpreneurial role in promoting industrial efficiency and profitability by initiating or assisting the reorganisation or development of an industry;

(c) act as a holding company to control and exercise management of certain government shareholdings to be vested in it; and to

(d) extending public ownership into profitable areas of manufacturing industry.

Separate bodies have been set up for Scotland and Wales. NEB has a large measure of operational freedom. NEB annually prepares a corporate plan which is discussed with the department of industry. The general criteria for investment provided by the NEB are that it looks for an appropriate rate of return from investments, and an adequate return within a reasonable period of time. As a general safeguard it is not allowed to retain any interest in newspapers, magazines, or other periodicals except under exceptional circumstances.

The public sector is involved in financial institutions beginning with the Bank of England. There is also

considerable pressure from political circles in the labour party to nationalise substantial parts of the British banking system in order to remedy deficiencies in the gearing of their activities to the investment and working capital needs of British industrial development. Apart from this there is the (a) finance for industry limited (FFI), (b) Export Credit Guarantee Department (ECGD) (c) National Giro (d) The Department for National Savings and the National Savings Bank (e) the Royal Mint (f) The Housing Corporation (g) National Film Finance Corporation which are also involved in finance and credit activities.

The public sector is promoting research and development and it is estimated that it bears about half the expenditure on R&D in the country. Several public sector institutions are involved in R&D. Among them are : The Atomic Energy Authority, the Research Councils, the Requirement Boards, the National R&D Corporation and the National Computing Centre.

Public Sector activities in oil is focused on British Petroleum and the British National Oil Company.

In the field of regional policy the United Kingdom has as yet not been successful in enunciating a clear policy towards development of regions. But there has been increasing, public sector involvement under regional and local authority which have included : the provision of industrial sites; the construction of factories for letting; building grants; grants for plant and machinery; accelerated depreciation allowance; loans at low interest rates; help regarding labour; government training programmes; infrastructure expenditure; strategic regional planning; and location of government offices outside metropolitan areas.

About seven ministries are concerned with regional planning but there is no coordinating authority for the totality of regional policies.

Apart from the above activities the public sector is actively associated with the development of agriculture, broadcasting and communications, overseas development, definite manufacturing, ship-building, aerospace, waterways, ports and water supply, tourism, civil aviation and airport management.

Recent trends

As can be seen from the above presentation the public sector in the U.K. is alive in all fields of the national economy. Commercially many public sector corporations are not doing well. It is active in R&D, finance and credit and high-technology areas where objectives cannot be easily quantified. After the coming of the Conservative Party in power in tune with large parts of the western world anti-public sector moods are sweeping the leading circles of the country. The emphasis is now more on the resolution of economic and social problems through the market place rather than government intervention. But a dramatic change in the magnitude and direction of the public sector seems highly unlikely. More emphasis is being placed on efficiency in the public sector and to a certain extent on profitability of operations. Some measures are being taken to cut bureaucratic red tape. There is also an opinion expressed among business circles that the profitable areas of the public sector should be 'denationalised' and given over to the private sector. But chances for any significant 'denationalisation' are not much even having in view the political colouring of the present British Government which is laying emphasis on supply-side economics a la America. Whatever be the political vicissitudes one thing is clear, the public sector in Britain has come to stay. □

Essentials of Japanese management

(*Continued from page* 20)

concerted results of the group exceed the ability and efficiency of an individual. The changing conditions that demand expertise and creativeness are gradually bringing to light the inherent shortcomings of group management and are calling up the need for self examination and revisions. The group management structure in Japan tries to clarify job duties, responsibility and authority, the establishment of individual responsibility, the stressing of individual expert ability.

6. Professional Management

The family base of management, lifetime employment and promotional policies on the basis of seniority and group decision indicate towards absence of professional management. But, the management by professional managers is dominant in big business. It is surprising to note that Japan has more joint companies run under the management of professional managers as compared with European business. The management development programme is conducted by the companies themselves or by specialised associations e.g. Japan Productivity Centre. In Japan, management is concerned with self-development management. Seminars are being held and well attended in Japan.

7. Role of Government

The Government established protective policy to modernise the enterprise to meet the international competition. The Japanese management developed under governmental support and intentional capital centralisation during pre-war era. The rapid development of Japanese business management after the war resulted largely from the free competition among enterprises. In order to rebuild the economy independently, controls were placed on foreign currency, foreign capital and foreign trade. The Japanese enterprises were protected against foreign competition to first establish themselves within the indigenous market. As these enterprises developed the restrictions against foreign enterprises were gradually removed. The liberalization is being made as quickly as possible to contribute formation and development of a free world economy and development of Japanese management. The activities of the Government are limited to creating and maintaining the stage for free economy and the economic activities are carried out independently by the enterprises. There is rarely any case where the government controls or protects enterprises. The need for greater social responsibility on the part of management is increasing. The government gives guidance to the independent activities of the enterprises.

The necessity of modernisation of management in the present situation of the Japanese economy arises

out of management such as enlarged scale of enterprise, democratization of management, competition in innovation, higher wages and shortage of labour, international competition. Greater efforts are being made by management in Japan today to modernize management methods for establishment of a new management concept, long-range management planning, decentralisation of the organisation, comprehensive control systems, research and development, market and computer utilisation. However, management did not close its eyes as to the course of its traditional nature. Japanese management has studied and absorbed modern principles and methods management training based on modern management principles and methods is very popular in Japan today. Japanese have a strong desire to improve themselves. They are willing to abridge the gap between the level of management of Japan and the management of the advanced countries of the west. Japanese management has strived to solve its problems in a progressive manner by innovating and integrating as often as required. Japanese management has achieved good results from the point of modernisation of management while carrying out integration with the traditional climate of Japanese management. Japan management is exerting efforts to accumulate and store information both from within the enterprise and from outside sources through the management information systems and is also exerting efforts to develop methods of forecasting and planning. Japanese management has been carrying out the principle of production first. The marketing area is one of the weak *areas for Japanese management. There is* strong consciousness of the need for management innovation in marketing areas. Positive efforts are now being directed toward developing techniques independently. The pushing forward of research and development as well as research and development organisation directly headed by top management is well established. ☐

(*Continued from page* 24)

(loan schemes) are asked to evaluate on their merits. Many appreciated the plan for facilitating credit at low rate of interest. Difficulties as informed by the people referred to lack of details, procedural delays and the expensive bribes they have to give to the sanctioning authorities.

When asked to evaluate IRDP in toto, there exist differences of opinion. Those who doubt the government measures and government machinery are indifferent to not only IRDP but also to all types of programmes. *Those with a drive to improve* and increase their level of production consider the programme as fruitful while others who doubt the loyalty of their own co-farmers say it is a waste. They opine that inspite of the new development programmes, the beneficiaries lack real consciousness for receiving and repaying the loan and national interest is never in their minds. Apart from this, they complain that those in power and with knowledge of the programme get loans and advances in their favour.

Regarding the suggestions for the [illegible] of the IRDP and improved efficiency of the plans, the villagers feel that a reduction in rate of interest will have its own favourable effects. But most of them give the idea that enough publicity be given to these programmes'.

Felt needs of the village

The Injar village with a population of 749, recognises its inadequacies by and large in all economic aspects. When asked about the developments that must be made in the village, nearly 89 per cent want water facilities to be provided immediately. The other facilities in the order of preference are the need for a hospital, or at least a primary health centre, road facilities so that the transport authorities will ply their buses regularly. They further insist on electricity connections.

Of secondary importance are : the necessity for loan facilities, a high school, fair price shops, street lights, starting small scale industries in the village and establishing an agricultural office to provide agricultural implements on hire and to teach about soil reclamation and other ways of improving agricultural productivity.

Suggestions

The educational level of the younger generation must be developed. Many discontinue their studies after 5th standard for the simple reason that they have to walk all the way to another village to get High School Education. Opening of high school along with the existing primary school is essential.

As the size of the family, according to our calculations is at a level well below that of the national level, a little more effort to maintain the very same family size must be taken.

A good change has occurred with respect to the pace of savings but it must be fostered by making the facilities 'available at hand' to the villagers. The post office must appeal on the basis of its attractive rates paid as how well they can mobilise even a small saving.

Any programme, whether it is granting of loans or consultancy service, must be publicised through mass communication media, which can reach. Publishing it in newspapers is not enough. Public radio for the village will be helpful.

Frequent visits by the Gramasevak and other agricultural officers and explanation of IRDP schemes to small active groups will be helpful in dissemination of information throughout the village.

Regarding the facilities to be provided, medical facilities are essential to keep up strength and efficiency. Government must undertake to provide medical services with a watch over public sanitation. The other essential facility that must be provided is development of a drainage system. Road development will attract professionals for medical care and improve communication system. ☐

Silviculture produces "Good earth products"

N. C. Tejpal

The natural way of farming says the writer, ensures the products to be free from harmful effects of insecticides. At the same time, they will be more nutritious with a better flavour.

THE TREE PLANTATION has become so profitable that the farmers are increasingly replacing the seasonal crops by forest farming. The cost of inputs and labour has gone high.

Tree farming is more profitable, and is like a Bank. A farmer can harvest the tree crop any time when he is in need of money. Further, many wood-based small scale industries could be started in the villages, creating employment at their door-steps. And the farmers would be free from the middle-men and speculators.

However if the method of silviculture is adopted, we can have the food crops and the farmers will have the timber as commercial crop.

In silviculture the legumous trees like Schamu (Leucaena) which gives abundant organic fertilizers as well as protein rich fodder, should be planted in rows of 12×3 ft. This is an ever-green tree and its leaves and tender branches are ideal manure and fodder.

Farming method

In silviculture, no ploughing, weeding or manuring is required. Just sow the seeds on virgin land, cover the land and seeds with Schamu leaves and other farm wastes, irrigate the land with water mixed with dung, and within a few weeks, the land will be full of earth worms which would bore holes in the earth, soften it, and manure it with their dropping. Each worm produces organic manure at the rate of 750 grams per year. A hundred worms will multiply into 10,000 in one year and by another year they will multiply themselves into a million, enriching the soil. Moreover, it will not require insecticides; and the yield will be 20 to 30 percent higher than that obtained by using chemical fertilizers.

The best method is to construct a biogas plant, for the supply of liquid manure, and install sprinkler irrigation method which would require only one-fifth of the water required by the usual irrigation method. This will not only save the water for more irrigation but also save the energy to pump water in large quantity for the irrigation.

The weeds will be smothered by the cover of the leaves on the earth, and they will be devoured by the earth worms.

The food, vegetables and fruits produced by this method would be free from harmful insecticides, and at the same time more nutritious with a flavour which we used to have some 40 years ago, before chemical fertilizers were introduced.

After one year growth of schamu trees, the oil producing leguminous seeds like winged beans should be planted near the trees. This is a creeper plant which will creep on the tree stem and will produce oil bearing beans with high protein, which contains 17 per cent oil and 35 per cent protein, its oil cakes and leaves are ideal concentrates for the cattle food.

In 12 Ft. of space between the trees any crop could be raised; the rows of the trees should be from west to east to get maximum sun and air for the planted crop.

Cheaper produce

Since the farmers can save the cost of inputs and labour, the produce will be cheaper to the consumers. The profits should be ploughed back in installing sprinkler method of irrigation, so that the earth worms would remain alive and healthy. The dryness in the soil will kill them.

(Continued on page No. 32)

Science and Technology Notes

Centre for genetic engineering and biotechnology

AT THE MEETING of the Preparatory Committee held in Vienna from 24 to 27th January, 1984 with regard to the proposed International Centre for Genetic Engineering and Biotechnology (ICGEB), the following resolution was voted and approved.

"Based on the mandates from Belgrade high level meeting, ministerial level meeting in Madrid and the deliberations of the two preparatory committee meetings in Vienna, it is decided that the centre should consist of two components. These may be located in Trieste, Italy, and New Delhi, India.

These component centres of scientific excellence should serve the interests of developing countries and international co-operation in accordance with the objectives of the ICGEB as contained in article 2 of the statutes.

The preparatory committee considers that in establishing the criteria that will be followed in granting the status of affiliated centre according to article 9 para 2 of the statutes, particular consideration should be given to all those countries that made generous offers for hosting components of the centre in the spirit of international co-operation. The affiliated centres could participate actively in the ICGEB training, research and development activities, and they may establish an integrated network of clustered centres to take up work in specialized areas, as well as to interact closely in their work between each other and the component centres of the ICGEB. Both the affiliated centres and the integrated networks would be eligible to receive project funds from international sources allocated by the Board of Governors.

After a period of three years, the Board of Governors shall examine the activities of the ICGEB and may decide on expanding the constitution of the ICGEB by converting some of the affiliated centres into component centres having regard to the scientific requirements and financial resources available".

It may be recalled that based on an initiative taken by UNIDO for the establishment of an International Centre for Genetic Engineering and Biotechnology, India offered to provide host facilities for such a Centre at a meeting of interested countries held in Belgrade in December, 1982. Since many offers were received, the subject was discussed at a Plenipotentiary Meeting held in Madrid in September, 1983 and it was resolved that the ICGEB should be established preferably in a developing country and the offers from India and Thailand were found attractive. The meeting also took note of the offers made by certain developed countries such as Italy and Spain, and felt that these generous offers could also be taken note of.

Measures to save Taj from pollution

THE GOVERNMENT have taken some special measures to save the Taj Mahal from pollution.

A geographical zone around Agra has been notified where new polluting industries and expansion of the present capacities of the existing foundries have been banned.

Two thermal power stations in Agra have been closed down and conversion of steam locomotives in the railway marshalling yard to diesel operation has been completed.

To minimise the effect of pollutants, plan to raise a green belt around Taj has been made by the Department of Environment and is being implemented by the Government of Uttar Pradesh and nearly 1.6 lakhs plants have been planted in Agra since 1982.

The ambient level of sulphur dioxide near Taj are being monitored by National Environmental. Engineering Research Institute. Meteorological data are being collected by the Indian Meteorological Department. Indian Oil Corporation has set up four ambient monitoring stations for measuring ambient levels of sulphur dioxide at Keethum, Sikandra, Fara and Bharatpur.

The Archaeological Survey has installed very powerful sophisticated sulphur dioxide monitors at Taj and Sikandra. Their sensibility range is 0.5 to 1 part per million. The measurement of sulphation rate, analysis of rain water, analysis of particulate matter, cationic analysis, measurement of wind direction and wind velocity, measurement of primary and second steps are also being done. In addition, new preservatives are being tried and cleaning of marble by Attabulgite technique has been introduced.

Sun-heated water for a New Delhi hotel

The solar water heating system recently installed at Hotel Janpath in New Delhi is meeting its entire requirement of 40,000 litres of hot water daily.

The system is fully operational and hot water is being provided to all the rooms and the kitchen round the clock.

Water heating system installed there expects to last 15 years. While it saves 254 litres of furnace oil every day, the maintenance cost is minimum. Anticipated annual fuel savings, assuming that there are 300 sunny days, will be 75,000 litres of furnace oil. In terms of money this works out to approximately Rs. 2,25,000 per year.

The system consists of 325 solar collectors fixed on the roof of the hotel. Made of easily available material like copper and aluminium, the total cost of the system is about Rs. 14.65 lakhs. Thus the capital cost will be recovered in above six and half years.

Success Stories

A worthy service

THALAK BRANCH of the Chitradurga Gramina Bank has become so popular in the area of its operation that even a school-going boy in any village in the vicinity can identify its staff. In the short span of less than two years, the branch in Thalak, a road side village in Challakere block in Chitradurga district, has financed over Rs. five lakhs, mostly to the small and marginal farmers in about 10 villages. Under IRDP, it has helped hundreds of villagers to secure economic assets.

Basanna a marginal farmer of Giriammanahalli, about 4 Kms. from Thalak, took an advance of Rs. 1200 two years ago to purchase a buffalo. He cleared the advance in the stipulated period. Satisfied by his promptness in repaying the loan, the bank gave him another advance of Rs. 1500, enabling him to purchase another buffalo. Today he owns two milch animals and earns nearly Rs. 15 a day. With increased income he has opened a petty shop in the village.

Similarly, the branch also financed Banjaiah and Rangaiah small farmers of Mannekote, to dig wells in their fields. They drew Rs. 8000 each. Both Banjaiah and Rangaiah have now been able to raise two crops a year. Their income has gone up by 100 per cent.

M. N. Shankar,
Field Publicity Officer,
Chitradurga unit.

A Gandhian touch

FOR THE LAST 28 YEARS Krishnamurty Mirmira has strived hard to develop Bhadravati village in Chandrapur district in Maharashtra on the Gandhian principles of economy. In 1955, he decided to develop the pottery industry. A Graduate in Ceramics, Mirmira opened a Gramodaya Sangh in 1955 with 126 persons from 36 local families to train the artisans for pottery. Later he handed over the Gramodaya Sangh to the members to run it.

The society has implemented many schemes with advances from banks, Loans have been repaid on time. Bricks, tiles, flooring tiles, drainage pipes and chinese earthenwares are prepared in the production centre. In the year of 1978, a ceramic decorative section was started by the Sangh.

Of late, he has started to make flooring tiles from red soil. These tiles are cheaper than the cement tiles. Krishnamurty Mirmira is of the view that houses should not be plastered with cowdung which is required as fertilizer. Tiles should be used instead.

R. G. Pujari,
Field Publicity Officer,
Chandrapur.

Bank helps a cobbler

SHRI AMAVASAI aged 45 years is a cobbler in Salaigramam village of Ilayankudi Block of Ramanathapuram District in Tamil Nadu. He is having a roadside chappal-repairing unit near the village bus-stand, for the last two decades. During the season for chappal business i.e. March to September his daily income ranges from Rs. 20 to Rs. 30. With this meagre income, he is managing his family comprising his wife and three children. About two years ago, the Indian Bank branch of the village advanced him a small loan at differential interest rate of four per cent per annum. With this credit Amavasai has been able to expand his trade and earn more income. He has repaid the loan in time.

He is of the view that the Bank should help him with higher amount of loan so that the persons like him, can come up in life.

Sundaram Subramanian,
Field Publicity Officer,
Madurai.

Silviculture products

(*Continued from page No.* 29)

It should be noted that this method should not be adopted in the land which is saturated with chemical fertilizers. Such land should be allowed to be free from chemical fertilizers which kill the worms.

This is the latest method of natural farming, increasingly adopted in Europe, USA and Japan. The products produced by this method are sold under the brand name "GOOD-EARTH PRODUCTS" and sold directly to the consumers which fetched 25 to 40 per cent higher price to the producers.

Many of the present day diseases are due to the use of food products contaminated by poisons used as fertilizers and insecticides.

In Baroda a GREEN THERAPY CENTRE, has been set up to supply directly to the consumers the food products produced by the use of organic manure and without the use of insecticides.

Every farmer must try this revolutionary method of farming in his half an acre of land, and if personally convinced of its high productivity, must join the Green Therapy Centre, which could be started in every city. This project will create employment for thousands of young men throughout the country. ☐

Every child a tree

Books

Modes of Planning

GRAMMAR OF PLANNING, P. R. Dubhashi, Indian Institute of Public Administration, New Delhi, pages 122. price Rs. 80.

The book touches briefly the facade of all sorts of planning but is silent on the ways and means of that planning which may bring all round growth and development of our people in the light of our experience. May be the author is a civil servant and he may be lacking in courage to call the spade a spade in regard to planning in view of the total drift from the set objectives of the plan to ensure growth with social justice with equality in opportunity, status and income of the people in terms of the Constitutional directives. In fact, poverty, illiteracy, poor health and high mortality, aided by an alleviatory employment strategy, conceal a disturbing imbalance of our planned development. There is something fundamentally wrong with our development process, grammar of planning, with the strategy underlying it and with the aspirations that underpin the strategy. Our planning has so far snowballed into a progress without a sense of direction as can be seen in reality from the ever increasing poverty syndrome of our people, and it seems to be drifting away from the direction of genuine social and humanistic progress. There is, therefore, a dire need for an urgent review of the style of our development, which is, by and large, a trap of our making. Unless we get out of this trap, before long our planning will go haywire.

Nevertheless the book provides a handy information on various types of planning which may come handy to planners and students. But more than this our planners will have to unlearn most of their existing notions of planning by making poor the focus of their strategic consideration for bringing them above the poverty line and for rapid acceleration of their development.

While analysing the concept of planning, the book mentions three principal types of planning, such as planning in a market economy, planning for the socialist economy and planning in the mixed economies. Planning is a means to an end which is to bring about all round development of people. In view of this, planning system must undergo constant improvements in the light of our experience of the last six plans in the country.

Redeeming aspect of the book is that evolution of an integrated approach to planning with a synthesis of economic and administrative management of the plan process has been attempted The concept and rationale of planning, planning typology, methodology of planning—sectoral and spatial planning, district and local planning, project planning, substance of planning, organisation of planning, financing the plan, plan monitoring and evaluation, international planning, optimum planning etc. have been discussed briefly in the book under review.

M. Yunus Siddiqui

Fishery Economics

FISHERY ECONOMICS AND MANAGEMENT IN INDIA, P. S. Rao, Pioneer Publishers and Distributors, Bombay, pages 356. price Rs. 225.

IN FOUR PARTS of fourteen chapters, the book is a thorough going exercise on fish production in India along with the inter-related issues. India ranks seventh in fish production and her exports of marine products crossed Rs. 300 crores in 1982. Though it has made rapid strides in exports but it has not made headway with regard to domestic market. It is not as yet an organised industry because of many problems both economic and technical in nature.

The extent of fresh water ponds, tanks and reservoirs is estimated at 24,95,300 hectares and under estuaries and brackish waters 15,36,600 hectares. On the marine sector the total area within the continental shelf is 0.45 million sq. km. and under Exclusive Economic Zone about 2 million sq. km.

The author observes that fish being highly perishable the conservation of quality through processing is necessary if higher receipts are to be obtained. Marketing has been the weakest link in the chain of Indian fisheries. The overall conclusion of the author seems to be that there are many areas which are not intensively fished so far. For example, the offshore and deep sea areas are untapped to a great extent. The east coast resources, particularly north of Madras, have not been intensively exploited at all. By adopting deep sea fishing methods India can become one of the largest producers of fish that could be exported.

The book usefully discusses issues pertaining to fishery inputs for production, socio-economic conditions of fishermen, role of fishery cooperatives and law of the sea. A reading of the book will make one possess adequate knowledge on fishing industry and trade.

Navin Chandra Joshi

Money making in Stocks and Shares

MAKING MONEY ON THE STOCK MARKET. S. S. Grewal. VISION BOOKS NEW DELHI, pages 246. price Rs. 50.00.

WITH the phenomenal growth in the economy and diversification in various fields of activity, the number of companies in our country has steadily increased over the years with a concomittant rise in opportunity for people to invest their money. Though the public are aware of the potentialities of money making in stock market, many of them lack the guidance or expertise to locate sound or profitable ventures for spreading their earnings. The present book is an attempt to supply the know how and the

author has very clearly stated that he has written the book for enriching the knowledge of people who have no idea whatsoever on the subject. Divided into four parts, the book begins with an explanation of what companies and stock exchanges stand for and how they operate. In part II of the book, he has gone deeper into analysis of annual financial statements of companies and has explained a number of key ratios as also the role they play for assessing the worth of shares before deciding on investments. Many statistical tables in this part exhibit clearly how the ratios are to be worked out and interpreted. Part III is full of suggestions to spot investment opportunities and the book concludes with a clear note on the methods of tax minimisation.

The case study presented in detail can only be taken as a model for guidance. If the author, instead of analysing a well established company, had prepared a similar study of an upcoming company, the purpose of instructing the lay public would have been better achieved. Heavy reliance has been placed on analysing balance-sheets and profit and loss accounts of companies for a number of years before coming to an investment decision, but the author has, probably not taken into account how difficult it is for an individual to get the balance-sheets of companies. for people, already well versed in shares and stock markets, the book has very little to offer by way of new suggestions. It may be considered as a useful introduction on the subject for novices and may probably whip up their zest for acquiring further knowledge.

D. P. Rangan

Economic Notes

Commercial fish seed farm projects

SIXTEEN COMMERCIAL fish seed farms will be set up in Assam, Tripura, Himachal Pradesh, Haryana, Andhra Pradesh, Rajasthan, Gujarat, Maharashtra and Kerala during the current year.

Under the National Fish Seed Programme each farm will have a water-spread area of 10 hectares. Nine more fish seed farms are proposed to be set up in Jammu and Kashmir, Punjab, Karnataka, Tamil Nadu and Damodar Valley Corporation area and the concerned State Governments have been asked to select potential sites for the purpose.

While projects for the 16 Farms have already been sanctioned by the Central Government, the remaining 9 will be sanctioned shortly to meet the target of 25 Commercial Fish Seed Farms during the current Five Year Plan. These 25 Farms with 70 per cent loan assistance to states will produce annually 250 million quality fish seed on full operations by undertaking large-scale induced breeding programme.

Simultaneously, under the World Bank Assistance Programme for 1980—85, construction of 27 Fish Seed Farms, each of a size varying between 10 to 25 hectares, have been taken up separately in the States of Madhya Pradesh, Orissa, West Bengal, Bihar & Utta[r] Pradesh for producing 457 million quality Fish See[d] annually. Five of these Farms are expected to sta[rt] operations during the forthcoming monsoon breedin[g] season.

A corporation for marketing the natural ga[s]

The transportation, processing and marketing [o]f all natural gas, which is fast growing into a majo[r] source of energy, will in future be handled by a ne[w] corporation in the public sector, leaving the Oil an[d] Natural Gas Commission and Oil India Ltd., th[e] producers of natural gas, entirely free to concentrat[e] on their primary function of exploration and exploita[-]tion of hydrocarbon resources in the country.

In setting up this new corporation, which has re[-]ceived approval of the Government, the pattern fol[-]lowed will be the same as is available in the case o[f] crude oil which is brought by the ONGC and OIL to designed points where it is taken over by oil com[-]panies for further processing and marketing.

The new corporation will receive natural gas, bot[h] associated and free gas, at agreed designated point[s] where the Gas Corporation will take it over at price[s] determined by the Government and will then b[e] responsible for its processing, transportation an[d] marketing.

Independent handling of natural gas has becom[e] inevitable because of increasing production of thi[s] important energy source. At present 15 million cubi[c] metres per day of natural gas is produced and, i[n] the coming years, this level may go up to around 4[0] million cubic metres per day. The country's tota[l] reserves of natural gas have increased from about 6[0] billion cubic metres in 1970-71 to over 400 billio[n] cubic metres in 1982-83. There are also indications o[f] finding gas in new areas also, particularly in Andhr[a] Pradesh and Rajasthan. With gas reserves increasin[g] its marketing would then have a wider coverage than a[t] present.

Natural gas is of immense importance since it is th[e] feedstock for key industries like fertilisers and petro[-]chemicals and also for the production of Liquefie[d] Petroleum Gas. It is also used as fuel in power plant[s] and as industrial fuel.

High alumina bricks developed

THE RESEARCH and Development Centre of th[e] Steel Authority of India, Ranchi, has developed ne[w] technology for high alumina bricks by using techni[-]cal alumina instead of traditional raw materials lik[e] kyanite, silimanite diaspore and fused alumina.

Alumina bricks are used in blast furnaces an[d] other furnaces of steel plants. In view of the limite[d] availability of traditional raw materials, the ne[w] technology would be widely welcomed by the stee[l] industry and would prove more economical. Th[e] alumina content in these bricks goes beyond 65 pe[r] cent.

The policy for setting-up new industries in the backward areas has paid dividends. After the announcement of a new package of incentives for the promotion of industries in these regions last year, more and more industries are being set up in backward and no-industry districts. While the number of industrial licences for these areas increased from 145 in 1982 to 317 in 1983, the number of letters of intent issued increased from 583 to 649 during the same period.

This increase was inspite of the fact that the licensing threshold was raised during the year from Rs. 3 crores to Rs. 5 crores. It is for the first time that industrial licences have been issued for backward states like Arunachal Pradesh and Nagaland.

The number of industrial licences issued for no-industry districts also increased to 15 in 1983 as against only two in 1982.

The share of backward areas in the number of letters of intent issued increased from 33.2 per cent in 1978 to 43.9 per cent in 1980. This further increased to 61.5 per cent in 1983.

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The target of achieving 60 per cent "couple protection" in the reproductive age group under the family welfare programme may well be exceeded by the target date of 2000 AD. A rise of 2.2 per cent in a year in the couple protection level which reached 25.9 per cent in 1983 lends substance to this hope.

The number of sterilisations and IUD insertions and use of conventional and oral pill registered considerable growth last year while oral pill use rose by 78.5 per cent, IUD insertions increased by 56.3 per cent as compared to 1982. The total number of family welfare acceptors in the country rose from 45 lakhs in 1978 to 110 lakhs in April 1983.

Another hopeful fact is a fall in the population growth rate. It fell from 2.2 per cent in 1970 to 1.9 per cent in 1983. This is all the more encouraging because a lower growth rate in population was achieved in spite of a substantial fall in death rate. Fifteen States with 47 per cent of the total population registered declining trend in population growth rate. These statistics are based on reports made available from about 330 districts in the country.

During the first nine months of 1983-84, sterilisations totalled 2,539,938 IUD insertions 1,015,498 contraceptive use to 5,577,090 and oral pill use to 2,60,032 resulting in 51.1 per cent achievement upto December 1983.

Even though performance levels differ from State to State, the target set for AD 2000 for family welfare may in all probability be achieved by 1991.

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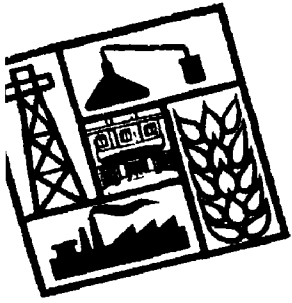
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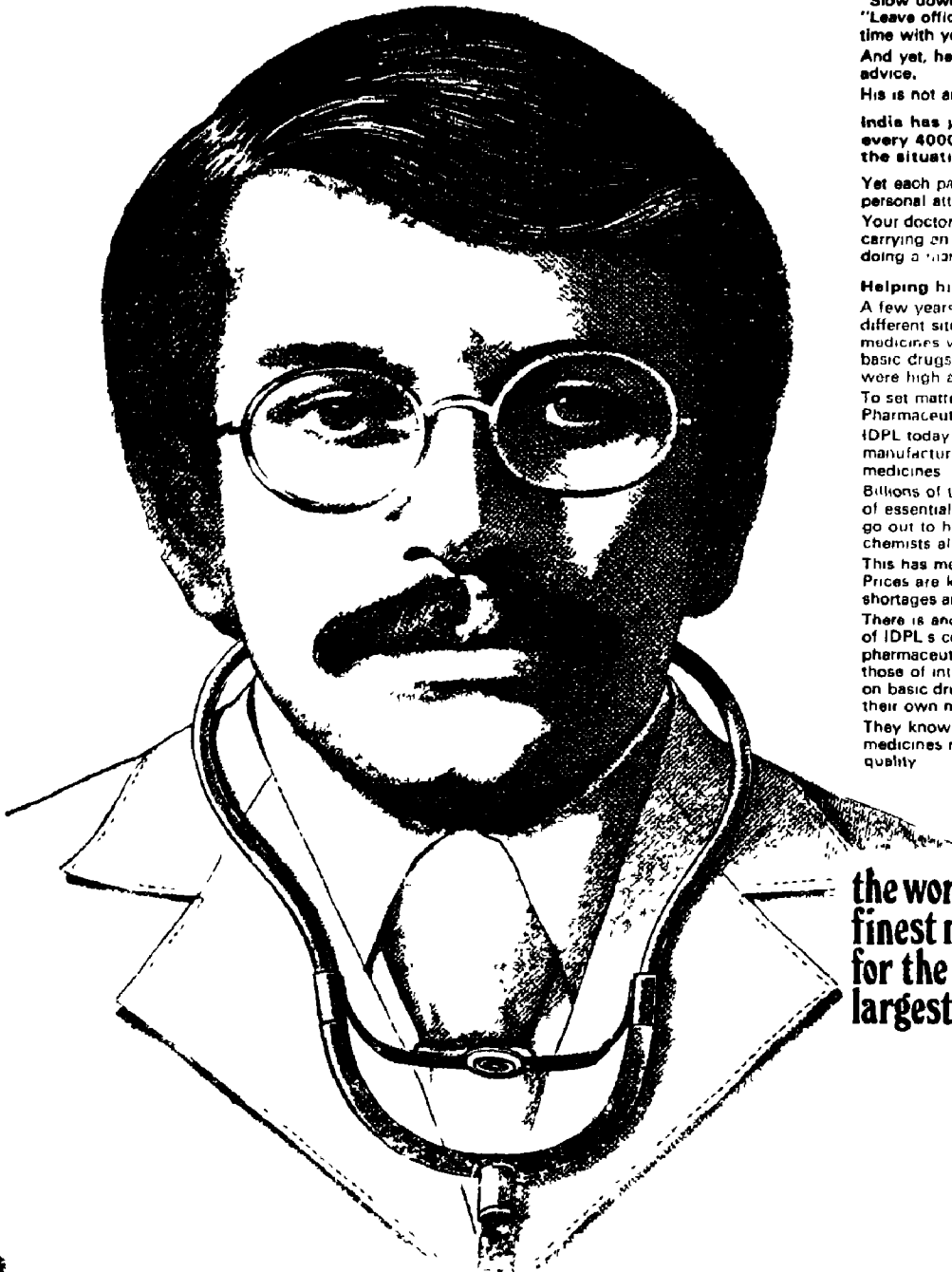
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Our Contributors

Mohammed Fazal—Member, Planning Commission, New Delhi ; **P. R. Dubhashi**—Director, Indian Institute of Public Administration, New Delhi ; **Dr. G. N. Seetharam**—Faculty Member, Institute of Public Enterprise, Hyderabad ; **K. M. George**—Manager (Evaluation), Punjab National Bank, New Delhi ; **Dr. A. K. Singhal and Dr. Smt. Kusum Lata Singhal**—Free lance journalists, Gwalior ; **M. L. Bhargava**—Senior Manager, RIICO, Jaipur ; **Dr. Lalit K. Sharma**—Associate Professor, Deptt. of Surgery, All India Institute of Medical Sciences, New Delhi ; and **M. Yunus Siddiqui**—Yojana correspondent.

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Why and how of public sector

Mohammed Fazal

The most striking feature of the public sector has been its role in pushing the pace of industrialisation by establishing basic and heavy industries and providing the infrastructure. What more should be done to help fulfil its objectives? This is the key question to which the planners, managers and decision-makers have to provide the answer. The author highlights the genesis, historical perspective and contribution of the public sector and offers suggestions to improve its functioning.

THE EMERGENCE of the public sector in India is due to a conscious policy decision taken in the context of the development strategy adopted at the beginning of the planning era. The objectives of industrial policy are derived from the Directive Principles of State Policy of the Constitution of India. In terms of the Directive Principles it is stipulated that the objective of the State Policy would be to promote the welfare of the people by the creation of a social order based on social, economic and political justice. It would also be the endeavour of State Policy to provide employment opportunities for its citizens, to bring about equitable distribution of material resources of the community and prevent concentration of wealth and means of production. The socio-economic objectives of State Policy were summed up in the goal of socialistic pattern of society by Parliament later in 1954.

Economic foundation

The Industrial Policy Resolution of 1956 reiterated these objectives while defining the future direction of the economy, and the role of the public sector, the private organised sector, the cooperative sector and the village and cottage industries sector in planned development of the country. The Industrial Policy Resolution stated that the objectives could be achieved by accelerating economic growth. For speeding up the process of industrialisation, it was considered necessary to develop heavy industries and machine-making industries, to expand the public sector and to build up a large and growing cooperative sector. These were expected to provide the economic foundation for increasing opportunities for gainful employment and improving living standards and working conditions for the people.

Balanced regional development

At the same time, it was considered urgent to reduce disparities in income and wealth to prevent private monopolies, and concentration of economic power. It was, therefore, necessary that the State progressively assumed a predominant and direct responsibility for major industrial sectors. With the adoption of the socialistic pattern of society as the nation's objective and the need for planned and rapid development, it was necessary that all industries of basic and strategic importance or in the nature of public utility services would be in the public sector. But for the exclusive development of basic and heavy industries, the role of the public sector was conceived to be one of supporting and promoting the private and the cooperative sectors.

As stated in the Policy Resolution, the State would facilitate and encourage the development of industries in the private sector by ensuring the development of transport, power and other services, and by appropriate fiscal and other measures. In respect of the objective of balanced regional development through dispersal of industries and economic activity, the role of the State was considered mainly as one of providing the basic facilities for the growth of industries in different parts of the country.

The concentration of industries in certain areas was mainly due to availability of power, water supply and transport facilities. It was, therefore, essential to extend such facilities to backward areas so that industries could be attracted to them. It was also realised that rapid industrialisation called for creation of proper managerial and technical cadres.

The policy-makers were conscious that for the creation and successful operation of a public sector, as envisaged, would throw up a number of serious, organisational and managerial problems. The public sector enterprises had to be provided with competent and independent leadership. There had to be decentralisation and delegation of authority. The public enterprises were expected to be run on commercial lines, generate surpluses and contribute to further development of the economy. It was, therefore, necessary to create a climate of maximum freedom for them to operate, and to judge their performance by "total results".

The somewhat detailed recapitulation of the genesis of the public sector in India is necessary, because often there is a tendency to assess their performance without reference to the conditions and the objectives governing them. It is also necessary to ask the question whether we have done all that is necessary to create proper conditions and climate to make the working of the public sector effective and successful. The performance of the public sector could be reviewed in terms of the major objectives stated above, before considering what could be done to improve their performance, and consider the future direction of development of the public sector.

Historical perspective

Viewed in proper historical perspective, the public sector in India has many achievements to its credit over the last three decades. The most striking contribution of the public sector has been its role in pushing the pace of industrialisation by establishing basic and heavy industries and providing the infrastructure.

It has also played a pioneering role in dispersing industries in different backward regions of the country. As a result of the public investment policy in the six Five Year Plans the public sector has come to occupy the "commanding heights" of the economy. It has now monopoly in railways, communications and air transport, coal mining, power generation, petroleum industry, defence industry, banking and insurance. It has a predominant share in shipping, steel and other metals, heavy machinery, machine tools, fertilizers and some consumer industries, like drugs.

The public sector has also been playing an important role in trading and marketing activities including foreign trade. The public sector thrust for commanding heights is reflected in the investment pattern that has emerged over the years. Enterprises engaged in steel, minerals and metals, coal, petroleum, chemicals, fertilizers, heavy engineering, etc. account for nearly 73 per cent of the total investment in the central public sector (excluding railways and postal departments) of Rs. 30,000 crores at the e of 1982-83.

The role played by the State in the developme of the infrastructure is highlighted by the fact th the investment in railways was Rs. 8164 crores, a that in the communication sector was Rs. 27 crores. Besides this investment in the Central publ sector, there is substantial investment in the Sta public sector. By 1982-83, the investment in th States' public sector was Rs. 27,000 crores includi also investments in State electricity boards and th State transport corporations.

It was realised quite early in the planned develo ment of the economy of India that unless balance regional development was achieved, the goal of eco nomic growth with social justice would be difficul The public sector has entered into a wide spectru of industries and other enterprises dispersed over th length and breadth of the country. The large inves ment in projects located in different areas provid considerable direct employment. Besides, it has th multiplier effect on other sectors of the local econom through the development of infrastructure faciliti like roads, communications, power, water supply, et and ancillary industries. The skills of the local popu lation are upgraded. The quality of life of the peopl living in these far-flung areas has also improved as result of the location of the projects in such areas.

Employment opportuniti

The public sector in India has offered considerab employment opportunities to people. Of the organise sector employment of 239 lakhs in June 1983, th public sector employed over two-thirds or 164 lakh It has a big pool of skilled manpower and some the best talent in engineering, management, finan and consultancy is to be found in the public unde takings.

More than the quantitative dimensions of emplo ment generation, the contribution of the public se tor in the evolution of a management culture i tune with the modern industrial society is of great significance. In contrast to many private enterpris run as individual and family concerns, the publ sector units are characterised by professional manag ment. This has contributed to the evolution of management and work culture conducive to scient fic management of large corporations.

The role of the public sector in the developme of skills is truly impressive. There are more than o lakh managers working in the public enterprises. T silent management and technological revolution th is going on through these enterprises provides t basis for an economic take-off in future.

Ancillary units have a vital role to play for fu ther economic development in the country. Establis ment of large plants without corresponding matchi growth of small scale and ancillary units results lopsided and unbalanced growth. Ancillaries for t supply of parts, components, tools and intermediat and various services to large plants do prove to very useful because of their ability to economise savings on overheads and recurring expenses, grea

efficiency by virtue of their better coordination and concentration on the production aspects of business. Ancillaries do also contribute to the optimum utilisation of capital which is scarce and greater use of manpower which is abundant.

Public sector enterprises review from time to time their production programmes with a view to vacating such areas which can be left to the small scale sector. As a result, the number of ancillary units belonging to private entrepreneurs attached to the Central public sector companies has grown from 169 in 1973-74 to 1200 in 1982-83.

Goal of self-reliance

The public sector has contributed to the goal of self-reliance both by impressive import substitution and export promotion. By capturing the commanding heights of the economy the public sector has made the country self-reliant to a large extent in respect of the whole range of machinery and equipment required for further development. The export earnings of public enterprises increased from Rs. 1,562 crores in 1977-78 to Rs. 4,700 crores in 1982-83.

The public sector has played a crucial role by spearheading the process of modernisation and diversification of the economy, thereby promoting technological self-reliance. Public enterprises through collective ownership and coordinated planning are potentially in a better position to visualise the whole range of technological research, development, and application.

The chain of national laboratories under the CSIR are maintaining contact with the industries, industrial associations, Government departments, corporations and other users of products of technological research. Besides the large public undertakings have set up their own R and D units and design and engineering organisations in such diverse fields as metallurgy, fertilizers, chemicals, heavy engineering and heavy electricals, oil exploration and production, communications and so on. The Defence Research and Design Organisation in the public sector, as also Atomic Energy and Space organisations are also involved in their fields in research and development. As a result, Indian capability in R&D has increased considerably.

R&D activities require long-term planning, mobilisation of large resources, intricate coordination, and a long wait for the results. The public sector has undertaken such a national task. It is true that there is considerable gap between research and its application, but there is no doubt that the facilities created have great potential for application.

In a mixed economy, where public and private enterprises operate and co-exist, the temptation to judge the public enterprises performance by the private enterprise criteria of net "profits" in a narrow commercial sense, is indeed misleading.

Multi-dimensional objectives

Public sector enterprises have multi-dimensional goals, one of which is that these enterprises usually undertake activities which are not privately remunerative importance. Enterprises which are set up by the public sector would not have been set up if criterion only of maximising profits was adopted. If the whole process of industrialisation in India was left to the private sector, India would not have achieved the stride in economic development, in the development of high technological base of the country's economy, in effecting import substitution, in raising the country's managerial and technical manpower to the level which the country has been able to raise.

There is a great deal of qualitative difference between "profits" of a public enterprise and the "profits" of a private enterprise. And yet comparisons continue to be made between profit made by private enterprises engaged in software consumer-oriented industries with profits made by the public enterprises which are in a completely different kind of operation altogether.

An analysis of the performance during the period 1968-69 to 1978-79 indicates that the Central public sector enterprises had, in fact, earned a gross profit of Rs. 9013 crores including provision of depreciation. Over the years, the percentage of gross margin of public sector to capital employed has increased from 7.5 per cent in 1968-69 to 13.05 per cent in 1982-83. These gross margins have been the resources generated by the public sector for the overall development of the economy.

The immense requirements of our development have necessitated a re-orientation in our approach towards public sector in many ways. Firstly, while the achievement of non-financial objectives will continue to be important, these enterprises will have to generate greater resources for the financing of economic development. The most important manner in which this has to be achieved will be by a significant contribution towards better management. Capacities which have been set up, have to be fully used. There has to be a tight rein over costs of production. This will be the major thrust for better performance. Side by side pricing policies in the public sector would need to be reviewed from time to time to make them more realistic, and not as an instrument of subsidising the other sectors of the economy.

A managerial revolution

A major managerial revolution has taken place in the public enterprises, although rather quietly. It is not often realised that the managerial group in the public enterprises under the Central Government is today more than one lac. This is roughly three times the size of the managerial group in the All India and Central Services. Unlike the latter, managerial group in the public enterprises was a new breed, the seeds of which were sown in the post-independence era.

On the other hand, the size and quantity alone do not always speak for themselves. The test of managerial revolution which the public enterprises have brought about in our country is the extent to which they have been able to carry out the much needed managerial reform and managerial reconstruction o

(Continued on page 11

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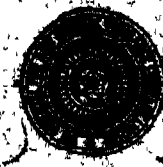
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Thinking for the Seventh Plan

P.R. Dubhashi

Discussing the approach to the Seventh Five Year Plan, the author calls for laying emphasis on increasing literacy, stress on social discipline, elimination of implementation gap, and decentralisation of planning process. Moreover, the so-called non-plan and maintenance items should not be ignored as they are crucial to the performance of the economy, he avers.

THE SEVENTH FIVE YEAR Plan is on the anvil. The Planning Commission has already embarked upon the exercise for the formulation of the approach to the Seventh Five Year Plan. In conducting this exercise it is of utmost importance that "more of the same" is not just all that we have. Rather, we must go all out to make a thorough introspection, critically examine every single aspect of the past performance, and on that basis, not hesitate to introduce innovations and to take bold initiatives even though they may imply a sharp break from the past.

In his recent key note address at the Seventh Economic Development Conference, Mr. L. K. Jha, Chairman, Economic Administration Reforms Commission, put forward the suggestion that the Seventh Five Year Plan should be productivity oriented rather than investment oriented. It has been noted with concern in recent years that the capital output ratio has gone up alarmingly. That is why, in spite of the increase in the rate of savings in the economy, the rate of growth has not gone up to any material extent. We should, therefore, go deeper to find out the roots of productivity.

In the ultimate analysis, the productivity of the economy depends on the quality of the people and the most single important factor which influences the quality of the people as participant in the productive process is their level of education and training. The historical experience of all the developed countries of the world conclusively shows that no country can make the transition from an underdeveloped to a developed country without a very high level of literacy which is the most important pre-requisite for the progress of any society. This was brought home dramatically to my mind during my recent visit to South Korea. In course of two decades from 1960 to 1980, covering a span of four five-year plans, that country has completed its economic take-off through a sustained process of economic growth at the rate of more than 10 per cent per year. Its average standard of living has gone up from US $ 82 to US $ 1700. How has this Korean miracle been accomplished? When I asked this question, one most important explanation was the fact that the rate of literacy in South Korea is 95 per cent. This near cent per cent literacy has made it possible for the government in South Korea to ensure the participation of the people in all programmes and projects of modernisation and economic development. Literacy has made the Korean people highly conscious and this account for the speedy success of its development programmes.

Literacy for development

On the contrary, inspite of three decades of planning, the literacy rate in India, as 1981 Census dramatically brought out, has been no more than 36 per cent. The female literacy has lagged much behind male literacy and the proportion of female literate population is much less. Indian literacy rates are much lower than even those of neighbouring countries of Asia, whether it is Thailand, Malaysia, not to talk of Sri Lanka, where literacy had always been higher. With such vast illiteracy India cannot make speedy progress, no matter how much we invest in plant and machinery. The primary goal of the Seventh

[illegible] Year Plan should be to attain near cent per cent literacy in India. Is this impossible? It does not take much resources to realise this attainment of cent per cent literacy is a labour intensive rather than a capital intensive task. If our vast educated but unemployed population is harnessed to the task of attaining universal literacy, we might be solving simultaneously the problems of literacy as well as the problem of unemployment amongst the educated youth. Unorthodox methods may have to be employed in this task for pushing up rate of literacy from 36 per cent to nearly 100 per cent. The school rooms will have to be used in the morning and late evening hours for conducting literacy classes but the task is certainly not insurmountable or beyond our capacity. On the other hand, it is overwhelmingly important and brooks no delay. The achievement of cent per cent literacy is bound to be reflected in better success of our development programmes and projects and a quicker pace of development.

Emphasis on quality

While attainment of cent per cent literacy is a quantitative task, development requires qualitative improvement, specially in two specific fields namely, higher education and public administration. It has been complained that standards of university education have pathetically declined, even in well-established universities of the past which were standard bearers of high quality. Standards have fallen even in technological institutions like engineering and medical colleges. This has been attributed to indiscriminate expansion which has diluted quality. We often boast of India being third in the world in respect of the scientific and technical manpower but the relevant question is, "of what quality"? Students coming out of the portals of educational institutions which are impoverished in the essential assets like libraries and laboratories can hardly be reckoned as qualified scientific and technical manpower. For higher education, what is required is quality and not quantity. More important than laboratories and libraries are the quality of teachers and their devotion to their profession. Complaints have often been voiced that university professors go with impunity even though they do not deliver their assigned lectures.

What applies to higher education also applies to public administration. The strength of people employed in public administration in India is more than 15 million. For a population of 700 million we have the ratio of 23 persons in public service for a thousand population as compared with 17 to 1000 in Japan. With a continuously expanding scope of public administration and the enlargement of functions, there has set in a proliferation of organisations and increase in the number of personnel with noticeable lower productivity in performance.

The national performance in both these fields of higher education and public administration will vastly improve if we make a shift from increase in numbers to improvement of quality.

Dedication and discipline

There is another aspect of expansion which deserves notice. With increase in numbers has come decline in discipline. Because of the "Demonstration effect" of elite behaviour, the decline in discipline, both in higher education and public administration, has spread to other layers of society. The consequences of falling standard of social discipline have been serious. Just as an illiterate society cannot make rapid progress so also a society without discipline cannot achieve results. It is not necessary to have an authoritarian order to ensure social discipline. In a country like India, it would be true to say that elite behaviour can do much to engender social discipline. But if the elite behaviour is itself characterised by cynicism or lack of social concern, it sets a bad example and permeates throughout the society.

Here again, we have a lesson to learn from South Korea. It is the critical combination of enlightened political leadership, dedicated bureaucracy, disciplined military leadership, enterprising business leadership and conscious public that has brought about such a miraculous progress and such a rapid transformation in South Korea. Social discipline is not a matter of plan outlay but it is the basic prerequisite for successful planning.

The implementation gap

Preoccupation of our planning has indeed to shift from plan outlay to the impact of planning. At present, our whole plan review and monitoring system gives excessive attention to progress of plan expenditure and next to that to realisation of the physical targets. Very little attention is paid to the impact of planning, though what matters is really the impact. Expenditure which does not create the necessary impact is indeed counter productive. Examples could be given of several projects and programmes which have resulted in expenditure but not the desired impact. The most notable example of inadequate return to massive investment is, of course, that of irrigation. Large industrial projects with underutilised capacity also fall in the same category. The whole of administrative machinery is itself a case where it is possible to have better utilisation of capacity to produce a greater effect in terms of socio-economic progress. The phenomenal gap between outlay and impact can be described as that of "the implementation gap". Many reasons account for the implementation gap. One of them is the lack of necessary linkages between various programmes, which in turn, arises because of our failure to think through programmes from the starting point of concept and design to that of implementation and results. The planners must so design plans and programmes as to eliminate the implementation gap. They must take care of "instrumental targets" to ensure the fulfilment of the ultimate targets. To make plan allocations without taking care of constraints whether in the form of lack of materials or lack of infrastructure including marketing arrangements, delivery system etc. is to plan for failure. In the ultimate analysis this failure is not of the agency incharge of implementation but of the planners themselves. If there is under-production because of lack of power, it is the failure of planners because it provides for production targets without providing for overcoming the constraints.

Another important reason for plan shortcomings is the mismatch between plan schemes with an All-India design and location specific needs and requirements. The only way to bridge this is greater measure of effective decentralisation of our planning process. It is astonishing that after three decades of planning we do not yet have successful operational district plans. It is of paramount importance that at least during the Seventh Five Year Plan we do have operational district plans.

Finally, the view which has indeed become conventional that resources should not be spent on non-plan but should be diverted to planning also needs to be questioned. It is no use allocating investment for new plan projects if the projects already established and assets created are not well maintained. What is the use of adding to more dispensaries and hospitals if the existing ones are without essential medicines and equipment? The so-called non-plan items and maintenance items are often crucial to the performance of the economy and should not be overlooked in our enthusiasm for planning for new assets. ☐

WHY AND HOW OF PUBLIC SECTOR

(*continued from page 6*)

the entire bureaucracy, of which public sector is a subsystem. There is no doubt that India's public enterprises have thrown up some of the managers of the highest quality in the country. There is no doubt that their inspired leadership, their ability to overcome the obstacle have left a lasting impression on the managerial history of the country, from which the new generations of public enterprise managers will seek guidance and inspiration. The confidence of the nation in the public sector would be strengthened if the public enterprises can keep up the progress made in the last three decades and improve upon them considerably in the coming years.

Training and development

No effort should be spared in focusing attention on training and development. One of the proposals which deserves serious consideration is the establishment of a National Academy of Management for public sector managers. It would appear imperative that such an institution is set up so that the whole task of breeding a new generation of bright new managers of India's public enterprises could be taken up on a systematic footing. In the coming decades it is the managerial culture of the public enterprises which will be the pace-setter in restructuring India's bureaucracy, and the country's economy.

A long and arduous journey has been undertaken by the public sector in India during its life span of approximately thirty years. It has weathered many storms, and has withstood at times ill-informed and vicious attacks on it. It has also to be seen in real earnestness what could have been some of the major areas of weakness of public sector management, what could be its strength, and what should be the new shape of things to come.

In its development for a considerable length of time, the Government form of management was thrust on the public sector. The management practices, the conceptual ideas, modes of behaviour and the very thinking process within the public sector were borrowed from the Government. While these companies were registered as ordinary companies with limited liabilities, yet they were not only exposed to the Governmental bureaucratic culture, but derived a good deal of inspiration from it. Such a situation has thwarted in the past progress and performance of the public sector.

A sense of adventure and enterprise which should have been the basic norm of these enterprises was lacking to a considerable degree or in fact, it might have been practically non-existent. This resulted in rigidity in management with absence of manoeuvrability. In the last ten or fifteen years, new ideas have been emerging within the public sector regarding the managerial role, and its responsibility. At the same time, there has been a perceptible change in the introduction of new culture of managerial innovation.

The considerable concern and anxiety in the past at different levels in the Government and outside the Government has been responsible to a great deal of erosion of confidence within the management of public sector. It does, however, generate some confidence that the position is being changed.

Instruments of policy are to be introduced which on the one hand while making public sector answerable for its performance, leaves it at the same time considerable freedom to set its own rules of operation, and details of its working are not questioned from time to time at different fora, whether they be in the Government or outside. By a set of instruments of instructions, the Government could lay down for a particular company the policy framework under which the company will have to operate and the yearly performance, profits, etc. which each company will have to show. Within these boundaries, the public sector needs to be allowed a free hand.

In fact, such is the situation obtaining in regard to some of the oldest public enterprises in Germany, France, Italy, etc., where these enterprises are not only world famous, but are making considerable contribution to provide many manufactures and services for which they were set up and also contribute significantly to the augmentation of the national economy. India is faced with a new challenge of expansion and growth in its economic development. In this task, public sector has to play a great and constructive role. There has rather been unfortunately a tendency on the part of some of our countrymen to derive sadistic enjoyment of despair in the economy of the country, as well as the well-being of the nation. In this task, among other measures, which are adopted from time to time, abetted as they may be by certain outside forces also, public sector is found one of the convenient whipping horses. Our Motherland has abundant natural resources, and is endowed with great talents in her men and women. These two factors have every possibility of taking the country forward, and make India a Great Society. In this national task public sector has indeed a great role to play. ☐

24 DPD/83—3

Public sector in West Germany

Dr. G.N. Seetharam

Public enterprises in West Germany enjoy a higher degree of autonomy than in many other European countries. Besides, emphasis on profitability, they are strong in infrastructure and public utility, says the author.

THERE ARE VARIOUS FORMS of public enterprise in West Germany. There are public-law corporation without a separate legal personality like the printing office and with a legal personality like the Post office. Then there are private-law companies in the form of Joint-stock companies (AG) and private limited companies (Gmbh). There are public enterprises at the Federal level, Land level (State level) and at the Municipal level.

The term 'public enterprise' in West Germany is confusing since it is used for public administration as well as public enterprises proper. The European Commission has in its report differentiated public enterprises from other government institutions based on the following characteristics :

(a) sufficient assets with an equity which can be substantially reproduced at least partially by any normal business process e.g. through the issuing of shares, raising of loans or selling goods or services ;

(b) responsibility for its own decisions and actions ;

(c) budgetary independence ; and

(d) an organisational independence from the parent or sponsor in the form of having a separate business administration.

The genesis of public enterprise in West Germany goes back to 1875 when the German Reichsbank was founded. The Prussian State was very active in the economic sphere. It exerted influence over mines and railways. After the First World War several energy supply companies were brought into the public sector. There was some expansion of the public sector during Hitler's regime.

Federal public enterprises

Federal public enterprises under public law include the Federal Post Office and the German Federal Railways. Enterprises classified as federal public enterprises under public law are those which are independent from an economic point of view but which are in the exclusive majority ownership of the Federal Government. They also include the so-called special funds or what we in India know as departmental agencies. The characteristics of departmental agencies are;

(a) they are created by special statutes;

(b) they have no separate legal personality ;

(c) their staff are employees of federal Government ;

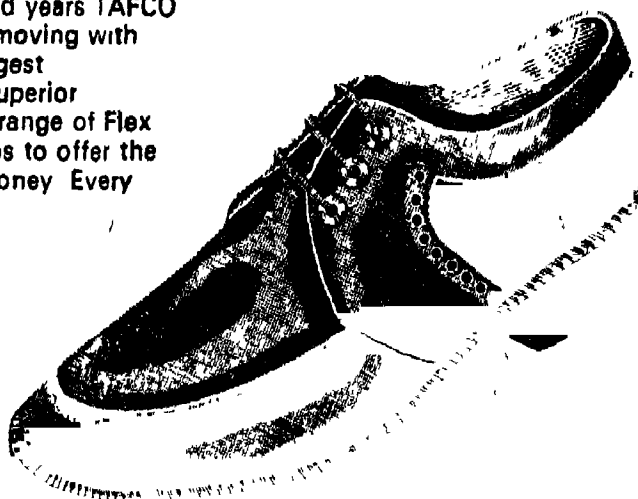
(d) nevertheless, the property of the agencies is legally separated, from the property of the Federal government ;

(e) accounts of the agencies do not form part of the federal budget ;

(f) not withstanding the absence of legal personality, provision is made for the agencies to sue, and be sued, in their own names ;

(g) their constitutions, functions, and powers are as provided in their special statutes.

Apart from railways and the post office this type of enterprise also includes the (1) European Recovery Programme Fund (2) Special Equalisation Fund (3) German Settlement and State Loan Bank etc.

Another form of federal public enterprise is federal public law corporations which are legally dependent, but with organisational independence. These are known in West Germany as section 26, (BHO) enterprises. Their activities are commercially oriented; they

estimate their expenses and proceeds in a separate plan, and only the profit or loss appears in the federal budget. They include spirits, heating and water under the federal minister of finance, ship building under the federal minister of transport, the printing office under the minister of posts and telecommunications, etc.

The next category of federal public enterprise is under private law (stock corporations-AG; private limited companies-Gmbh) in which the federal government participates directly or indirectly with at least one-quarter of the nominal equity. The other shares are often in the hands of several other public owners. The sponsoring ministries are :

(1) The federal minister of finance—

(a) mining

(b) energy

and some units in manufacturing and services including the large automobile company volkswagenwerk.

(2) the federal minister of transport—includes Lufthansa Airlines ;

(3) the federal minister of housing and town planning ;

(4) the federal minister of economic cooperation.

Since 1973 the activities of the federal government have grown. This is related to the energy crisis. Also, the industrial enterprises in which the federal government participates mainly fall in the energy sector. They include coal, oil, gas, electricity. The federal government is also active in the production of aluminium (51 per cent) of the national production, steel (10.4 per cent), domestic passenger cars (21.7 per cent) in the middle 70s.

Control systems

Federal public enterprises are an important factor in regional policy. A large part of the plant of federal enterprises is situated in structurally weak regions, for instance, near the border with East germany. In the field of regional policy, the federal enterprises have striven to protect and create jobs in areas with little industry. They have also run vocational programmes for training young people. The federal government is giving high subsidies for the development of atomic energy. It is also firm on the intention of developing a West German oil enterprise of international standing.

Political control of federal public enterprises is being exercised by Parliament and administration. The administration of the federal participations is distributed among 11 federal ministries. The principal ministries are finance, transport and housing and town planning. The federal minister of finance is responsibile for the task of overseeing the responsibilities of single federal ministers. In addition to the coordinaton function of federal minister of finance, federal ministers can also intervene in a vertical sense directly through the ministry to the enterprise and through appropriate composition of the supervisory boards.

State-level public enterprises

Data and information on land (State-level) public enterprises is very sketchy. Although these enterprises have a long tradition their importance in the national economy is relatively small. Their goals are :

(a) to preserve employment ;

(b) to diversify entrepreneurial activities in the land ;

(c) and some are non-profit-making enterprises with social aims (e.g. housing).

Most of the Land-owned public enterprises are in the field of banking, building societies and insurance. During the second half of the 70s structural changes have taken place in the public banks. Emphasis has been placed on achieving a better market share and competitive position through mergers, in order that greater efficiency might improve the financing of public banks. Connected with the savings bank sector are 13 public building societies. In the field of public insurance there are 38 insurance enterprises under public law. Their Articles of Association or statutes oblige them to offer insurance on easy terms, without any profit, for the purpose of the public good and for the benefit of the insured.

Municipal public enterprises

Most of the municipal enterprises are in the fields of electricity, gas, water-supply and district heating. They are also involved in local transport like trams, trolley-buses, motor-buses and special trains. There are also municipal enterprises in housing and savings banks.

Apart from the public sector the, federal and other levels of government exercise control over the economy through a variety of other instruments like market entry Price control is the most important means of regulation. In many sectors prices are regulated by imposing rates of charges, e.g., the schedule of fees for doctors, pharmacists, book sellers, lawyers, architects, engineers etc. Further, there is retrospective control in the form of monitoring of misuses. For example, the enterprises are free to fix prices and the intervention takes place only on suspicion of an abuse of a dominating position in the market. There are also regulations in the sphere of road and waterway transport, energy and insurance.

Some generalisations

The share of public enterprises in the national economy in West Germany is significantly less than in neighbouring France, Austria or Italy.

There is no proper definition of public enterprise in West Germany as a result of which it is extremely difficult to sum up the necessary data from national income accounts especially at the state (land) and local (municipal) levels.

Public enterprises in West Germany seem to have 'prima-facie' a higher degree of autonomy than in many other European counrties.

The emphasis on profitability is very much there.

The public sector is strong in productive infrastructure and public utilities. Its share in manufacturing is negligible except in case of automobiles.

The emphasis in German economic policy is much more on market stimulation and regulation rather than on direct intervention. □

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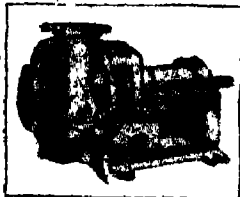
Co-existence or co-extinction

K.M. George

The global situation today is quite explosive and the clouds of fear psychosis of an impending nuclear holocaust may grip the entire world unless corrective actions are taken and concerted efforts made without wasting time. The question to be answered is whether we should long fondly for peaceful coexistence or coextinction.

THE WORLD TODAY is passing through a very difficult time and in fact, the international priorities got changed in the light of the rapid developments that have been taking place in quick succession. The erstwhile priorities before the international community were justice and peace. Today saving the world from a nuclear catastrophe is the top priority. This is the prime concern of those crusaders of peace and justice who want the posterity to inherit the earth as a worth living planet.

Social justice is the second priority. The imbalances of development and income distribution need corrective actions, so that exploitation is not perpetuated and achieved, peace becomes co-satiable.

Peace is the third priority though one of the most important priorities before the world today. By implication, should the other two priorities, get fulfilled and achieved, peace becomes co-satiable.

The recent meeting of the World Council of Churches (WCC) at Vancouver in Canada took the unqualified stand that using and possessing nuclear weapons is a crime against humanity. This has far-reaching implications. Many tall claims made by the so-called philanthropist nations which are concerned with world hunger and poverty are exposed as blatant hypocrits. When we look at the core base of the economies of these nations, we find they all have war based economies to keep them in good stead. This makes many of them international criminals and outlaws.

New dimensions

It is estimated that during the next decade from 1983 to 1992 some 17,000 new nuclear weapons will be added to the armoury. Unlike the erstwhile weapons, the new ones will be with more precision and better yields and as such more dangerous as well. A space war may be the next phase. The question, it appears, before the powers concerned is whether to put the anti-missile beams in ground or in space ? The danger looms large once it is decided to place them in the space in terms of checks and control. Laser Beam Technology (LBT) if used for the good of the mankind would have been a panacea to the suffering millions. Would it not be better to fight the killer diseases rather than attempting at the total annihilation of the humanity ?

A catching phrase has now been coined and floated by the vested interests, namely, Limited Nuclear War (LNW). It is a craze with nations whose economy is basically war-based. These powers are interested in creating conflicts and troubles on an ongoing basis somewhere or the other but definitely away from their own soil. They go on encouraging the countries in the peripherry of the trouble spots to stockpile more and more sophisticated weapons. Thus these countries are robbed off the economic aid given to them. In fact, it is a deliberate design by the donor

(*Continued on page* 21)

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Rural banking problems

Dr. A.K. Singhal

Dr. Smt. Kusum Lata Singhal

In India banks are relied upon to play a key role in rural uplift. Unless branch expansion of banks in the countryside matches the size of rural population in the decade ahead, the population per branch will go up. It is in this context that the Reserve Bank of India's direction to open more rural branches should be welcome.

IN OUR COUNTRY where about 75 per cent of total population lives in about six lakh villages, banks are relied upon to play a key role in rural uplift. The importance of having well-developed rural banking can hardly be over-emphasised.

The reasons for evolving an efficient rural banking system rests on the consideration that vast majority of rural population is poor. There are several States having a sizable population of the rural poor with an income of less than Rs. 100 per month.

The Committee to review arrangements for institutional credit for Agriculture and Rural Development (CRAFICARD) considered the rural poor as a specific target group. For discouraging the disproportionate growth of urbanisation, it is essential to generate massive employment opportunities through diversion of sizable credit to rural areas. The problems of rural areas are likely to become more and more complex in the future. According to a study, at the end of the present century in spite of all the development programmes aimed at improving the agricultural economy more than 18 crores of people depending on agriculture will be living below the poverty line.

With the advent of planning in the country, rural development was sought to be achieved through a community development programme by bringing about changes in economic, social and cultural spheres of the rural population. Apart from agriculture, the programmes envisaged improvements in communications, health, sanitation, housing, education, rural employment, welfare of women and children and cottage and small-scale industries

Needs of poor

Even in the Sixth Plan, rural development programmes seek progressive reduction in the incidence of poverty and unemployment. Recognising the importance of credit in the area of self employment, the Sixth Plan seeks to secure a high rate of rural credit expansion to serve the productive needs of all with priority being given to the credit needs of various economic groups among the poor.

Dr. Krishnaswamy Committee stipulated that by 1985 banks would have to increase agricultural advances to 16 per cent of their total credit. About 50 per cent of the direct agricultural lending must go to small and marginal farmers.

The notable participation of banks in the area of rural development particularly in the post-nationalisation period is reflected in the table below

Parameters	June, 1969	April, 1981
		(Percentage)
Share of rural branches in total number of branches	22.2	49.0
Share of rural depot in total bank deposits	3.1	11 0
Share of rural credit in total bank credit	1.5	9 4
Rural credit-deposit ratio	37.2	57 0

A new chapter in banks' role in rural development was added with the creation of a second tier base for rural banking in the form of Rural Reconstruction Banks (RRB). These banks are to open branches where the parent banks would not have them.

Genesis of rural banking

Involvement of banks in the area of rural development dates back to the fifties following recommendations of Rural Credit Survey Committee. Nationalisation of Imperial Bank of India in 1955 and re-orienting its branch expansion in favour of rural areas constituted the first major step in this direction. However, the banking industry showed an indifferent attitude towards their involvement in rural development until the nationalisation of 14 major banks in 1969. There were only 1,087 rural branches serving a population of about 36 crores at the end of fifties. However, socialisation and nationalisation of banks transformed the entire rural banking sector. But the real thrust on the rural development came about only after the creation of 'Priority Sectors'. Identification of 'Priority Sectors' forced canalisation of sizable bank credit into rural areas.

Georgaphical dispersal of branches over rural areas, a sine qua non of accelerated rural growth, was achieved with rural-biased branch expansion policy pursued by the Reserve Bank. The Lead Bank Scheme and identification of unbanked centres encouaged the rural oriented branch expansion.

For ensuring that a big chunk of resources mobilised by the banks in rural areas is used for the rural developmnet, it was decided to step up credit deposit ratio to 60 per cent in rural and semi urban areas. The district credit plans were formulated to ensure that sizable bank credit flowed in the desired sectors of the economy. Many other schemes including differential rates of interest and of village adoption were also introduced.

Multi agency approach

The need for sponsoring more institutions for rural development was realised when the performance of co-operatives and commercial banks was found below expectation. On the recommendation of National Commission on Agriculture (1971), commercial banks and co-operatives sponsored Farmers Service Societies. Availability of whole package of inputs including credit under one roof to marginal and small formers was the objective for setting up such societies. Under Regional Rural Act of 1976, banks were asked to sponsor Rural Reconstruction Banks through capital participation. Integrated Rural Development Programme is the latest effort for rural development. Under this scheme, banks are required to associate closely with the identification of beneficiaries, formulation of the integrated rural development plan, and extension of substantial credit facilities.

Tardy progress

However, the rural development schemes have made tardy progress. The impact on the rural poor has more or less been marginal. Mere formulation of plans and setting the targets will make little impact on the economic lot of the rural poor.

An evaluation of the District Credit plans by a Working Group revealed that backward areas had received a lower volume of credit while their requirements are much more as against progressive districts. The scheme has not penetrated deeper into the rural areas and credit flows, are mostly getting concentrated at the district or taluka levels. No concrete effort has been made to integrate District Credit Plans with the Integrated Rural Development Programme Certain operational problems have also affected effective implementation of the Lead Bank Scheme. The Lead Bank officers reportedly have no control over managers of other banks at the district level.

Similarly, under village adoption scheme only 70,000 villages have so far been adopted. In the case of DRI lending, the borrowal accounts numbered only 20.85 lakhs. The stipulated higher target of 1 per cent of the total for such advances is yet to be crossed.

Integrated Rural Development Programme

While the Integrated Rural Development Programme seeks to raise the economic lot of the poore among the poor, it appears to have made slow pro gress as against a task of covering about 15 millio families during the Sixth Plan, the annual report o the Ministry of Rural Reconstruction revealed th about 2,14,000 families were benefited in 1981-8 Slow utilisation of funds under the scheme raises doubt about its effective role in rural development. In 1978 79, the States were able to use only Rs. 37 crores ou of Rs. 90 crores released by the Government. In 1979 80, in addition to Rs. 37 crores carried forward, th Centre had made a provision of Rs. 103 crores fo IRDP.

Suggestions

There is a suggestion that credit overdues of th banking sector should be written off to help the rura poor. But in a country like ours where financial re source are scarce any attempt to write off overdue not only will affect the recycling of funds but also

reduces the tempo of rural development. The recovery position of farm loans was substantially lower at 52.3 per cent in 1980.

Simplification of formalities will help in improving banks' role in the area of rural development. Reducing inordinate delays in granting subsidies by State Governments to banks will minimise the time lag between loan disbursement and the grant of subsidy. This would help both borrowers as well as lenders.

Speedy utilisation of licences for opening branches in the remote places is affected in the absence of infrastructural facilities. State Governments should arrange for at least minimal infrastructural facilities such as small building complexes for housing the banks, and its staff, post office, rural dispensaries and if possible terminals for road transport. Marketing and other infrastructural facilities will surely promote schemes relating to small farmers and village industries.

The task of rural development when veiwed against the background of future development appears stupendous. Whether the banks with their existing structure would be able to shoulder the task of rural development needs a closer examination. India's population by the end of the present decade is expected to rise to nearly 80 crores which will swell the ranks of rural population. Unless branch expansion in rural areas matches the expansion in the size of rural population in the decade ahead, the population per branch will go up. It is in this context that the Reserve Bank of India's new branch expansion policy with an accent on rural expansion, should be welcome.☐

Coexistence or Co-extinction

(*Continued from page* 17)

countries to perpetuate their own fundamental economic interest. In this context the theme of disarmament and development becomes worth explaining for global justice and peace. There should not be any mistake in our understanding that disarmament means the collapse of the Western economies.

Challenges of priority

It is worthwhile to consider the magnitude of world poverty with a view to assessing the harm the nuclear stockpiling does to the mankind and the posterity. Some 14 per cent of the U.S. population, it is estimated, live below poverty line in 1982. If this is the case with one of the most developed economies of the world, one can imagine the extent and magnitude of the problem in the Less Developed Countries which account for a little more than two thirds of the world population.

The only markets which can keep on expanding in the world today are arms market and information sector. However, both are often misused and at times even abused. The present day militarism is hitting back the very same economies and the only way out for them is to keep the arms market go on expanding. This is borne out of the fact that currently 16 per cent of the world's arms are purchased by the Less Developed Countries as against less than three per cent during the Fifties. This calls for an analysis of the existing international military order.

Corrective action

The question which looms large is as to how to serve the best interests of the humanity ? This is possible if religious leaders, the middle class, scientists and other intellectuals unite and work against war in general and the nuclear warfare in particular. There is no room for any complacency on the part of the intellectuals to refrain from voicing their concern.

The 'public will' has to become stronger than the 'state will' if the mankind is to be saved from the impending nuclear holocaust. The question to be addressed to ourselves is, if "nuclear weapons are useless", as claimed by those who possess and manufacture them, why should they be manufactured and multiplied at all ?

Mass media has a major role to play in saving the mankind from this catastrophe. It has to mobilise the public opinion in championing the cause of the human spirit and peace. The power of human spirit must outwit the spirit of war.

Education must also aim at spreading the ill-effects of war in general and the nuclear war in particular. People have to be made aware of the disastrous consequences of the nuclear warfare and th spirit of built-in resistance must be inculcated in them. In schools and colleges, adequate subject coverage is required to be given in favour of the inclusion of topics on the ill-effects of nuclear weapons.

Yet another angle from which this notorious anti-mankind dragon can be contained is through organised International Womens' Movements. Women must replace the fairy tales by stories of nuclear holocaust. Thus, children must be made aware of the dangers of nuclear weapons and a positive hatred of nuclear weapons must be developed. In fact, it is here that 'public will' must dominate the 'state will'.

The situation today is quite explosive and the clouds of fear psychosis of an impending nuclear holocaust may grip the entire world unless corrective actions and concerted efforts are taken without wasting much time. The talks to reduce nuclear weapons must be resumed. At the same time provoking of a nuclear power by the other should not be taken heed by the supposedly provoked, as the purpose is to prove and establish the nuclear power superiority of a given nation once and for all. In fact, no nuclear power can afford to be provoked by others as the stake involved is unqualifiedly unique. The question to be answered is whether we should long fondly for peaceful co-existence or co-extinction ?

Construction—need for an organised effort

M.L. Bhargava

Construction activity occupies a pivotal position in the development projects of all sectors of economy. However, it has not received adequate attention for improvement as against the other sectors of economy. However, the potential for capital formation and employment opportunities will increase vastly if immediate attention is given to solve the problems of construction sector, the author maintains.

THE ROLE OF CONSTRUCTION in economic development of a country needs no introduction. In fact, it occupies a pivotal position in the development projects of all sectors—be it agriculture, rural development, energy, industry, transportation, communication or housing.

It has been seen that construction cost accounts for almost half of the developmental outlays. An analysis of outlays of construction reveals that in the year 1979-80 alone an amount of Rs. 5,677 crores was spent by the Government, another Rs. 302 crores were spent by organised sector and Rs. 5,520 crores were spent by the household sector. The projected potential for capital formation through construction by extrapolating National Building Organisation (NBO) estimates at 1980-81 prices is indicated in the table:

Employment potential

The employment potential in construction activity is quite large as it is highly labour intensive. It has been estimated that every Rs. one lakh invested in construction generates 3,000 mandays of skilled and semiskilled workers and another 1,300 mandays of managerial and technical manpower. The full time employment in construction activity in the year 1971 was of the order of 22,15,308. This figure dose not include the figures of workmen employed in this activity during non-Agriculture period.

Inspite of high potential for capital formation and for employment the activity has not received adequate importance and attention for improvement in comparison to the other sectors of economy, like industry and agriculture, probably because it has always been thought that investment in industry, agriculture and the like is more productive and conducive to economic growth.

It may be partly true that construction activity independently is not directly productive but, as mentioned earlier, the activity is always as essential part of every sector of production and income segments of the economy. From the NBO point of view of this activity it is noteworthy that a rupee saved is as good as a rupee earned. A serious effort for improvement in construction can give remarkable results, especially when outlays are so large.

(Rs. In crores)

Year	Public Sector	Private Corporate Sector	Household Sector	Total
1980-81	6,528	341	6,072	12,941
1981-82	7,508	385	6,679	14,572
1982-83	8,634	435	7,347	16,416
1983-84	9,929	492	8,081	18,502
1984-85	11,418	566	8,890	20,864
1985-86	13,130	628	9,779	23,537
1986-87	15,099	709	10,756	26,556
1987-88	17,364	802	11,836	29,998
1988-89	19,969	906	13,015	33,890
1989-90	22,964	1024	14,137	38,305

Some apparent consequences of the absence of proper attention are :

(i) the activity is yet not well organised, (ii) the organisers have been slow and hesitant in adoption of the results of research and development in field practices, (iii) practically no effort has been made for utilisation of scientific construction management techniques which could lead to increase in productivity, and (iv) the activity lacks sufficient quality control techniques.

Time and cost over-runs

Construction activity can be broadly categorised in three sectors : (i) the construction connected with development projects such as dams, bridges, power plants, roads and factories in the Government sector; (ii) the construction connected with projects of manufacturing, commercial buildings, hospitals, etc. taken up by the organised sector; and (iii) the construction of residential houses in household sector.

A sectorwise study indicates that the government sector, inspite of best possible resource backing, lacks project approach in most cases with the result that construction activity in the government sector is generally subject to time and cost overruns. Almost all the major projects involving hundreds of crores of rupees have suffered set back on account of overruns. Rajasthan Canal orginally had an outlay of Rs. 65 crores. However, it is now likely to cost around Rs 934 crores with the time overrun of about 13 years.

Major reasons for cost and time overruns in the Government sector, besides the lack of project approach, are shortage of raw materials, lack of co-ordination among the concerned agencies and short comings on monitoring front. The costruction in organised sector generally does have project approach and set backs in his sector have been on account of shortage of raw materials The third sector i.e. household construction, which is equally important from the outlays point of view have suffered the most.

A redeeming feature however is that ther is still an account available of lapses, losses and overuns for the projects in Government sector. But losses and overruns suffered in household sector are not even measured. The system of registration of approved contractors as is being followed in Government sector and organised sector does not exist in this sector. Consequently, most construction in this sector is handled by unqualified agencies

Initially this sector was dependent on 'Mistries' who, though unqualified, had experience. A single 'Mistrie' used to organise all the activities of construction of a house. In the earlier stages of development, availability of 'Mistrie' and skilled labour matched the development in the construction activity. Due to increase in demand and large scale manpower export to Gulf countries the problem has become acute.

Suggestions for improvement

Potential for capital formation, for employment, and the fact that an improvement of even of the order of 5 per cent in cost of construction would result in saving thousands of crores to the economy, calls for an immediate attention to the problems of construction sector which have been discussed below with suggestions :

Construction activity, in general, is still heavily dependent upon the conventional technologies. Newer concepts in technology have come up in construction world over. For getting better results in terms of cost and quality, it is necessary that Indian construction activity also employs new technologies extensively.

In the coming years as the land becomes scarce, more and more dwelling units will be provided in the multi-storeys buildings so as to achieve optimum utilisation of land through maximum floor space index. The concept is already practiced in large cities like Bombay, Calcutta and Delhi. Slowly this will gain acceptance in other cities also. Once the construction activity shifts from single storey to multi-storey there is likely to be no option but to adopt newer technologies for modernisation.

A number of Government bodies and organisations have been evaluating various technologies for construction But improvements have not taken place due to slow and hesitant adoption of the results of research and development in the field Government sector should take lead in adoption of research and development and simultaneously should publicise the benefits and the success so as to encourage an increasing use of newer technologies.

Architect organisations shall also have to come forward to serve the cause of economising the cost of construction through the following ways :

(a) Conservation of energy;
(b) Conservation of land scape;
(c) Recycling of buildings;
(d) Conservation of construction materials

Similarly, the activity is highly dependent on conventional raw materials. NBO has been collecting and disseminating data on the building materials, including cost reduction. However, the effort needs further boost to cope with the requirements. It is necessary to educate the household sector in a big way about the economics of use of various construction materials.

(Continued on page 32)

Early detection helps cure breast cancer

Dr. Lalit K. Sharma

One of the basic tasks of any health programme for curing breast cancer is to educate and convince women that the disease is curable if detected and treated at an early stage. Self-examination of the breast is advised as an important aid in its early detection, says the eminent surgeon.

CANCER OF THE BREAST remains a serious problem to women in India as in the Western world. Any individual woman in her life time stands one in fourteen chance of developing this disease. In the United States breast cancer is the most common form of cancer in woman Every year approximately 90,000 new cases are diagnosed and about 32,500 women die of breast cancer in the U.S.A. Japan has the lowest incidence of this disease in the world. It is also rare among the Eskimos. In India the incidence, according to a study in Bombay, is approximately 28 per 1,00,000 women population.

Risk factors

Three separate lines of evidence serve to support the importance of dietary factors. First is derived from an animal experimental study, which demonstrates that the feeding of high fat diets substantially increases the incidence of mammary cancer in rates.

Second comes from population correlation studies which demonstrate that correlation persists between breast cancer incidence and total dietary fat intake. The third line of evidence relates to breast cancer occurring in women with over-nutrition.

Advancing age : Patient's age has a very important relationship to the likelihood of her having breast cancer. Below the age of 25 the disease is rare accounting only for about 0.2 per cent. Maximum incidence of breast cancer is between the age of 40 to 54 years, hough the disease is seen in older women also.

Family history : Numerous careful studies of the prevalence of breast cancer in families leave no doubt that it is inherited. A lady with any first degree relative with breast cancer is herself in greater risk than a woman with no family history of cancer.

It has been demonstrated that when a woman has cancer of the right breast her daughters and sisters are predisposed not only to develop the disease but to develop it in the right rather than in the left breast.

Productive factors

While the age of puberty has been declining the incidence of breast cancer has been rising. In the Western world the age of puberty is about 13 years now, earlier it was around 16. Early menarche is shown to be associated with increased risk for breast cancer. Risk of breast cancer is lower among women with late menarche.

However, there is greater agreement about relationship between the age of menopause and breast cancer than its relationship with the age of puberty. There is a consistent trend for patients with breast cancer to have somewhat late menopause.

Parity : In an unmarried women population, incidence of breast cancer is about 1.5 times greater than the general population. Married women between the age of 30—65 consistently have a lower death rate from breast cancer than single women. Incidence of breast cancer seems to be higher in women who do not have children; thus pregnancy has a protective effect on breast cancer.

Age of first birth : The risk of cancer of the breast increases with advancing age at first birth Relative risk is much lower in women who had their first

child under the age of 20 than for those whose first child was born at the age of 35 or later.

Breast feeding : Today we are abruptly abandoning the practice of breast feeding. It would be strange if this abrupt and drastic change in breast function did not have some repercussion in terms of breast diseases, particularly cancer.

Incidence of breast cancer is higher in married women who do not breast-feed their children. Among the women who breast-fed their children for a shorter period the incidence of cancer of the breast was higher than in women who nursed their children for longer duration. It may be noted here that the period of lactation and breast-feeding is much longer among the Japanese and Eskimo women.

Viral factor : It has been known that breast cancer in mice is related to viral factor transmitted in mice. Similar particles have been discovered in human milk with same morphologic characteristics which are found to be associated with breast cancer in mice. The milk of 39 per cent of Parsi women in India has also been found to contain these particles.

Symptoms and signs : The most common initial evidence of breast cancer is a lump in the breast, unusually painless and fequently discovered by accident. Nipple soreness, discharge from the nipple usually blood-stained, retraction of the nipple may also be the complaints of the patient with breast cancer. Less common presentations include breast enlargement, ulceration of the breast, axillary mass and puckering of the skin over the breast. Tumor generally becomes palpable at 1-2 cms. size.

Breast cancer is most commonly found in the upper outer quardrant of the breast as a hard, painless, mobile lump. There may be no other findings on examination. However, at the time of presentation if the patient is in state of an advanced disease the lump would be fixed to the surrounding structures, skin may be punctured or ulcerated. A symmetry of the cancerous breast is common, with deviation, flattening or retraction of the nipple. In some cases nipple may be completely destroyed. A mass may be present in the axilla on the same side.

Natural history

A typical cancer of the breast is located in the upper outer quardrant of the breast. It grows slowly and may require five years before it becomes palpable. As the tumour grows in size, it invades the surrounding glandular tissue, underlying muscle and overlying skin. Eventually, tumour cells replace the skin which breaks down to form an ulcer. Thus the tumour increases in size and new areas of skin invasion may occur.

As this progression is continuing lymphatic and small blood vessels are invaded. The tumour cells pass along the lymphatic vessels to the axillary nodes, where they implant and grow. Tumour cells keep growing in these nodes and eventually these nodes adhere to one another in large conglomerate mass. With the involvement of the small blood vessels the tumour cells get into the circulation. These cells in the blood circulate through the body, and implants may occur in the lungs, liver, bones and brain. This systemic spread is the rule, and 95 per cent of patients who die of uncontrolled breast cancer have disseminated disease. Lungs, liver and bones are the commonest sites for these deposits.

Patients today are rarely allowed to go through all these stages of breast cancer without some therapeutic intervention. I feel sad to express that this however is not true in our country. A fair percentage of patients with very advance, disseminated breast cancer, where no treatment efforts can control the disease, are still seen in our hospitals.

Fundamental facts

Breast cancer is usually curable by radical surgery when it is not too advanced. When extension of the disease is present in the auxillary lymph nodes, the cure rate is markedly diminished. With the dissemination of the disease into the other organs of the body e.g. lung, liver and bones, no cure at all is possible.

In detection of breast cancer, both the patient herself and the physician have a role to play. It is a very tragic fact that in our country many women delay for a long before consulting a doctor. The total delay before any meaningful treatment is initiated in such cases may be responsible for patients seeking late advice of the doctor.

Lack of education : Many of our patients assume that since there is no pain in the breast or any other part of the body and they feel quite well in general, there is no need to worry. They often express : "This lump in the breast has not bothered me; so I left it alone".

It is astonishing how very poorly informed the average Indian women are regarding the basis facts of health; not to talk of breast physiology and disease. In our educational system the basic facts of life, health and disease are nowhere taught in the curricula of general education. Therefore, many a time one finds even educated people as ignorant about the disease process as the uneducated ones. It should not be difficult to include in our school or college education a basic course on health sciences.

The fundamental facts about how any cancer develops as a single focus and spreads in the body the importance of early diagnosis and principle of treatment should be widely and extensively published to inform the general public.

Economic factors : Excessive cost of medical care is an important factor in the delay. Majority of our patients are so poor that they can hardly afford a reasonable day-to-day existence, when there is a threat of a disease of a breast cancer, which involve repeated visits to the hospital for investigations and treatment, they often put it off.

Social factor : There is often a tendency among our patients to seek advice from any one who could manage the ailment without proper investigations and operation. Result is that these women with breast cancer fall a prey to "sure cure" clinics. These are neither "clinics", nor the cure is "sure".

However, the so-called clinicians keep nursing such patients of breast cancer with local drug application, injections and oral medicines. When the purse and the patient are exhausted she is forced to seek advice elsewhere. It is rather very very sad that by this time the disease has advanced a great deal.

Psychological factors : There is a whole series of psychological and emotional factors that may delay consulting a physician for breast disease, particularly cancer. These include fear of the disease cancer, operation, incurability and cosmatic deficiency; false modesty and shyness; and depression as a result of the knowledge of the disease, its long term treatment, a friend's narration about her mother's sufferings from breast cancer, etc.

Early detection of breast cancer

Self examination of the breast : One of the basic tasks of the public or institutional health programme regarding breast cancer is to educate and convince women that the disease is curable if detected and treated at an early stage. Self-examination of the breast is widely adviced as an important aid in early detection of breast cancer.

The first step in self examination of the breast is to inspect the mammary glands before a mirror. Look for any asymetry lump, change of shape, size of the nipple, its retraction, dimpling of the skin, or any redness. Any blood-stained discharge from the nipple must be consulted immediately.

Second step in *self examination* is to palpate the breast in lying position either on the bed, couch or floor. Each gland in turn is palpated by the flat fingers of the opposite hand. Palpation must be gentle, methodical and all area of the breast must be examined. A thickening lump area, or pain on gentle examination should be noticed.

This self examination is recommended twice a year, when women are in late thirties. This is the age at which breast carcinoma first begins. Whenever there is any doubt on self examination of the breast, doctor should be consulted.

Clinical staging.—Clinical staging can be defined as an attempt by the surgeon to identify the extent of the malignant disease based on the physical examination and investigations of the patient.

There are four stages of breast cancer :

Stage 1 : The tumour is confined to the breast.

Stage 2 : The tumour is confined to the breast but palpable, mobile lymph nodes are present in the axilla of the same side.

Stage 3 : The tumour extends beyond the breast :

(a) Skin invasion or ulceration of the breast.

(b) Tumour fixed to the underlying muscles, fixed axillary nodes.

State 4 : Dissemination of the cancer to other organs in the body, e.g. lungs, liver, bone etc.

Management.— (1) Investigations (2) Treatment.

Investigations.—Blood, Urine, X-ray chest, Biopsy.

Biopsy.—Examination of an abnormal breast tissue or lump under the microscope is the *only* certain way to determine the nature of the lesion or disease. A palpable mass in the breast, regardless of its being painless, mobile, and the length of time it has been present, *must be* considered as the *prime indication* for biopsy. Breast biopsy is a procedure with little risk, and can be done under local or general anaesthesia. The material removed at biopsy must be submitted for microscopic examination. Needle biopsy of breast tumour is done in some institutions and is very satisfactory, if the pathologist is familiar with this type of method and material.

At the All India Institute of Medical Sciences, we have facilities for frozen section biopsy. This is the most satisfactory biopsy method. The tissue is obtained by surgical technique under general anaesthesia. Specimen is processed by special method, slides stained and reported as to the nature of the tumour by a senior pathologist. By this method the report is available to the surgeon in about 20 minutes time while the patient is still under anaesthesia. The surgeon then proceeds to perform the required operation of the breast if the frozen section of the tumour indicates malignancy.

Treatment

There are three aspects of treatment : (a) Surgery, (b) Radio-therapy, and (c) Chemotherapy (Anti-cancer drugs).

Surgical Treatment.—Almost all patients need operation for breast cancer. Breast cancer surgery has been and still is based almost entirely upon anatomic principles. The concept is that tumour remains as a local phenomenon for a particular period of time. After that it spreads to the regional lymph nodes and resides there for another interval prior to systemic dissemination. With this understanding the treatment planning is done.

The choice of surgical procedure ranges from simple excision of the tumour to radical surgical procedure. Operative treatment of breast cancer cannot be fully effective if the disease has spread beyond the area removed by the operation. In the control or cure of breast cancer the operative treatment provides best results in patients who are in an early stage of the disease. Operative mortality is very low for various operations performed for breast cancer.

Radiotherapy.—Both pre-operative and post-operative radiotherapy are necessary for effective result. The concept of radiotherapy before operation of the breast is to reduce local recurrence and dissemination at the time of surgery in larger ulcerated tumours of border line operability. The goal of post-operative radiotherapy is primarily to eradicate the local disease completely.

Chemotherapy.—The use of chemotherapy (anti-cancer drug treatment) as an adjunct to breast cancer treatment represents today as one of the most exciting

ed rapidly in the last two decades. Drugs are administered at regular intervals after the operative treatment. Drugs and treatment period differ in individual cases. Usually, it is six months to one year. Patients with initial advance disease benefit with this method of management of breast cancer. Drugs and advice to take such treatment is available at the institute. These drugs are given after operative treatment.

Follow up

This is a must for all cancer patients particularly suffering from breast cancer. Regular periodic check-up, investigations and treatment, if advised, are absolutely necessary for the total long term management of breast cancer patients. At the AIIMS, we have managed 486 cases of breast cancer in a single surgical unit. Commonest symptom and sign have been a hard painless lump in the breast.

Less than one-fourth of these cases presented in stage-I of the disease i.e. when the tumour is confined to the breast. All these patients were operated upon. There was no post-operative mortality. Maximum benefit from treatment and survival has been in Stage-I patients.

Now for the last three years, after operation chemotherapy has been instituted to all patients with advance disease. Our patients tolerate these drugs very well with minimal side effects. Patients' own performance and disease control have been good in the patients with advance breast cancer. Laboratory studies include Estrogen receptors, circulating immune complexes, tumour cell cultures and drugs sensitivity plus electron microscopic studies in breast cancer.

Co-relation has been observed between high levels of circulating immune complexes in the blood and the disease status, particularly in advance or recurrent disease. Breast cancer cells from the operated patients have been cultured and drug sensitivity studies initiated. Results are encouraging. These studies are being done in collaboration with the departments of Pathology, Microbiology and Biophysics.

The studies are being done to understand the behaviour pattern of breast cancer and help in outlining treatment to improve the quality and longevity of life of patients suffering from this disease.

As far as the standard of diagnosis and treatment of breast cancer are concerned, the facilities available at AIIMS are comparable to any standard centre in the world.

(Based on a public lecture at All India Institute of Medical Sciences, New Delhi.)

(Continued from page 25)

It is also necessary to standardise raw materials keeping in view the locations and type of construction. It is also necessary to find out alternative raw materials from the cost reduction angle. Besides basic raw materials, building hardwares also need to be standardised. Whatever may have been the till now, a change can be brought about only when the benefits in economies are publicised so as to motive the household sector for their adoption.

Construction activity is known as an industry for name sake only but the approach is far from the concept. It has not been treated as an industry in spirit, either by the implementing agency, government or the financial institutions.

It would be appropriate to encourage smaller construction units (SCUs) on the pattern of SSI for taking up construction of household sector. These small units should be registered as SCUs so as to possess basic qualification, experience and facilities for taking up construction with the objective of improving quality in the household sector. It would be worthwhile to commission such SCUs through Civil Engineering Graduates. For meeting quality of construction the Govt. should enact a Legislation there by making employment of Civil Engineering graduates compulsory by organisation of SCU on the lines of employment of Miner Foreman in operation of Mines

Aspect of quality has a significant importance in the construction activity as it is very closely connected with the safety of human life. There have been a number of accidents due to compromise on the quality of construction in bridges, dams and buildings which have taken the lives of many innocent human beings. Unfortunately, yet this aspect has not received its due attention and importance For example, safety has been considered important for industrial workers and an independent institution of Inspector of Factories and Boilers looks into the aspect of safety in industry, but the importance of safety of a common man is yet to be realised. It would be worthwhile to think of an independent institution which could look into this aspect vigorously at the State as well as national levels There are number of poor constructions which constantly endanger the life of human being and creation of such an agency would be very helpful in detection of all such threats. The idea is that the aspect of quality control should not be left to the judgement of implementing agency alone, especially when it is connected with the human safety.

The industry is in severe grip of shortage of skilled labour for quite some time. It is also clear to every construction man that use of skilled labour can result in economy and improvement of quality but yet no organised effort has been initiated for the training of construction workers. Training Schools should be set up on the pattern of ITIs for training construction labour. []

A Report

Biotechnology for human excellence

M. Yunus Siddiqui
Yojana Correspondent

PROF. M.G.K. MENON, Member, Planning Commission, and Chairman, National Biotechnology Board has called for international cooperation of scientists, genetic engineers and biotechnologists in solving the gigantic problems of developing countries relating to food scarcity, health, large number of communicable diseases, biomass, energy etc.

Inaugurating a week-long Seventh International Biotechnology Symposium, held in New Delhi recently, Prof. Menon said that biotechnology was of greatest importance to mankind and it aimed, at smoothening human life. He said that with the help of biotechnology it was possible to grow as much food in dry land as it could be produced in rain-fed or irrigated land.

Comparing the present state of biotechnology to electronics 30 years ago, Prof. Menon predicted that biotechnology would permeate "practically all areas of relevance in the coming years." He cited the rapid advances being made in this field and noted that "in 1979 it took three years to synthesise a gene of 120 nucleotides. In 1981, the same work was done in three days", he added.

Among the potential benefits from biotechnology he listed cheaper and better vaccines to combat diseases, biofertilisers that are harmless, efficient energy sources, and new processes for chemical industry.

The symposium, held under the aegis of the Indian National Science Academy and the International Union of Pure and Applied Chemistry (IUPAC), the two sponsors, aimed at "continuing the cooperation and extension of scientific temper and brotherhood among the nations."

Significance of biotechnology

The challenge to the biosciences and biotechnology to meet the needs of the increasing population was discussed at length in the symposium. It was revealed that science and technology had evolved to a degree that had allowed the carrying capacity of the planet for human life to increase at an unprecedented rate.

The eminent genetic scientist from USA, Mr. Salk, said that the fields of biosciences and biotechnology were so advanced now that it was possible to eradicate the paralytic disease poliomyelities within a century after the recognition and isolation of the virus. He said that continued advances in these fields would be needed in all realms for maintaining good health and better equilibrium in relationship to the biosphere. All the human problems could not be solved by biotechnology alone If human conscience was brought to bear together with the biological and metabiological science and technology, then may be, an appropriate choice would be made to deal with the needs of mankind for the present and for the future.

Engineering component

The engineering component of biotechnology has progressed over the last century from matters ancillary to the processes themselves to direct and intimate involvement in their development design and supervision. The biochemical engineer has now superseded largely the traditional 'fermentation technologist' in these areas.

Major accomplishments of biochemical engineering in the last forty years include elucidation of the mechanics of oxygen transfer in 'submerged culture' and in the development of scale up procedures, continuous heat sterilisation, air sterilisation, adaptation of control system for PH and dissolved oxygen for use in bioprocesses, establishment of Kinetic of biological processes, development of immobilisation technology, utilisation of cellulose by biological processes. In most of the examples, the biochemical engineering contribution has been in the nature of "sweeping out empiricism" rather than innovation.

The challenges

The challenges which the biotechnology face are development of novel bioreactors for high productivity and utilisation of recombinant organisms. Validation of a new generation of separation methods not only for isolation purification of products but also for the recovery of useful materials, development of sophisticated systems and broader use of existing analytical capabilities both for developing and controlling generations.

The symposium received tremendous response from people and organisations all over the world. About 800 scientists and engineers from 65 countries participated in it. □

Success story

Madias of Srikonda

SRIKONDA, a small Madia tribal village, is 60 km. away from Sironcha tehsil in Gadchiroli district of Maharashtra. The village sarpanch was the first to set up a gobar gas plant. He also persuaded others to do the same.

As gobar gas plant requires 3000 bricks, a brick kiln was also started. To educate Madias about Janta Gobar gas plant, district level training camp was held in Srikonda. The three-week camp attracted twenty participants, all Madias.

Besides two plants already functioning, many are being constructed. With such enthusiasm as revealed in Srikonda the district authorities are confident of setting up 1000 gobar gas plants in the district against a target of 300.

Thus the Madias have helped in preserving forests, their single source of fuel. They are now thinking of providing street light for the village from electricity generated from their 13 gobar gas plants.

R. G. Pujari
Field Publicity Officer,
Chandrapur.

Bank enables a disabled

NATHU, a resident of Saira village in Udaipur district (Rajasthan) is a disabled cobler. His father is *mentally retarded and younger brother is handicapped* too. Inspite of all adverse circumstances, Nathu used to go to the local bus stand slowly with the help of his hands; his legs were too weak to carry his weight. There he used to polish and mend shoes.

Shri A. L. Dangi, Branch Manager, State Bank of Bikaner and Jaipur, Saira, while on evening walk, used to watch Nathu. His experienced eyes noted a strong will and determination in him. One day he talked to him and offered him a loan of Rs. 2000 to promote his job. Poor Nathu did not believe it at first. But when the bank manager convinced him that he meant what he said, he came forward to accept his offer. So the bank advanced him a loan of Rs. 2000. He was granted 40 per cent subsidy on this loan and the rest of the amount was to be repaid in easy instalments. Even after advancing the loan, the bank manager Shri A. L. Dangi saw personally that the amount was spent for the right cause. He guided Nathu to purchase leather and tools. He also helped him to procure materials for his shop at cheap rates.

Now Nathu has got his own shop. He makes night halts in the shop itself. He purchases leather to make new shoes, mends and polishes old shoes. His younger brother also helps him in his work. Now Nathu is earning enough to buy the necessities for his family. On the advice of the bank manager, he has opened a 10 year C.T.D. account in which he deposits a sum of Rs. 10 p.m. He is also very regular in repaying the instalments of his loan. He is full of gratitude towards the bank.

Ratan Singh
Field Publicity Officer,
Udaipur.

A symbol of scientific culture

P. Srinivasan

IG A SMALL boy in the junior B.A. class, ised English Professor asked, "Do you belong lass ?" C. V. Raman, the fourteen-year old lied in the affirmative. So brilliant was he, passed the B.A. and the M.A. examinations distinction. His first scientific research paper fished in the London 'Philosophical Journal' was a student.

)7 he topped the list in the competitive exa- for civil servants of the Finance Department. ed for himself the environment for his scien- suits while performing his official duties as Accountant General in Calcutta. He spent oare hours each day—5.30 to 9.45 a.m. and p m.—and the holidays in doing research at in Association for the Cultivation of Science. : the request of the great educationist, Sir Mukherjee, he gave up the Government job pted a professorship in physics on a reduced Vice-Chancellor Mukherjee appreciated this n these words: "This one instance encourages tertain the hope that there will be no lack of fter Truth in the Temple of Knowledge which endeavour to erect." This period (1917—32) golden era in Raman's scientific career.

of Modern India : C V. Raman by P. R. iarotv. Publications Division, New Delhi, pages Rs. 8.

s during a voyage to England in 1921— en at the suggestion of Sir Ashutosh—that curiosity was aroused by the blue colour of iterranean Sea. which culminated in the dis- f the Raman Effect and the award of Nobel him in 1930. His discovery that the energy oton can undergo a partial transformation iatter was hailed by great scientists, including and Rutherford. Even after five decades, rly since the advent of the Laser in 1960, Effect is getting more and more uses.

i joined the Indian Institute of Science in its first Indian Director and with him the centre of research moved from Calcutta to e. In this position he not only proved himself olary science administrator and teacher but 1 his own direct research, with a fifteen-hour work schedule every day. But his very efficiency made him a marked man and conditions became unfavoura- ble to him to function as Director. He resigned from that post with grace but continued as professor of physics, unmindful of the reduced status and emolu- ments. About this time he also declined an attractive offer from an institute in Amsterdam. He did not accept the offer of a high political position either.

In 1948, at the age of 60, he retired and set up his own institute. Under his guidance, it grew into a big centre of research. Raman was dissatisfied with the government's Western type 'big science' policy and the emigration of Indian scientists, including some of his own, to the West. He became a recluse and devoted all his time to personal research unaided by others. After some years this depression lifted and he became once again a child of Nature, enjoyed the company of children and delivered important scientific lectures. Soon after delivering his memorable Gandhi Memorial Lecture in October 1970, he passed away next month at the ripe old age of 82.

The life of C. V. Raman, the seeker, creator and teacher of new knowledge and the advocate of scienti- fic culture, will always remain a source of inspiration to the youth of India. He praised the fresh outlook of youth as the principal requisite for successful research. He firmly believed that the Indian mind was second to none and exhorted the youth to give up defeatism and work hard with courage. His assessment has been proved correct in recent years by the winning of the Nobel Prize by two more Indians—Khurana and Chandresekhar, (the later being Raman's own nephew). Raman wrote five books and published nearly 400 original scientific papers on an amazing variety of subjects, and also delivered several learned lectures. He was truly an early builder of scientific India.

Prof. Pisharoty, himself a distinguished scientist, has portrayed the biography of Raman with brief strokes but in bright colours. He has added an autobiographi- cal dimension to it by annexing Raman's Nobel speech, a lecture to children (which is a model for writing popular science), a radio talk on scientific outlook and his quotable quotes. The book deserves to be read by all those who are interested in science and scientific temper. □

THE NUMBER of malaria cases showed a downward trend in the country last year.

A total of 13,99,553 malaria cases and 3,08,021 P. Falciparum cases were reported in 1983 as against 18,03,873 cases of malaria and 3,76,005 P. Falciparum in 1982, marking a decline of 22 39 per cent and 18 08 per cent respectively.

The Urban Malaria Scheme has now been extended to 131 towns protecting about 553 19 lakh population from malaria as well as other mosquito borne diseases. This scheme was started in 1971-72 in 23 towns.

Six monitoring teams are now working in different parts of the country to identify the P. Falciparum sensitivity to chloroquine. Testing of alternate drug use wherever resistance to chloroquine has been detected in the P. Falciparum strain is being done. In established P. Falciparum chloroquine resistance cases, the drug regimen has been changed and cases are now being treated with alternate drug combination of Pyrimethamine and long acting sulpha.

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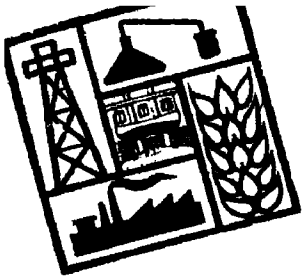
TRIAL run of the Metro, Asia's first tube train was successfully conducted recently in Calcutta. The 1.8 km. stretch between Park Street Station and Rabindra Nagar Station is the first to open for commuters. The entire stretch will be of 16.43 Km. length.

The stretch between Esplanade and Bhawanipur stations (6 Km.) will also be commissioned this year. The 2 km. track between Dum Dum and Belgachia is ready. It will take about seven years more for entire Metro to become completely operational.

A sum of Rs. 210 crores has already been spent on the project. Another Rs. 500 crores will have to be spent by the time the project is completed. Work on the project began in December 1972.

Each train in the Metro will have eight coaches. The Integral Coach Factory, Perambur near Madras, has supplied 16 coaches to the Metro at a cost of Rs. 50 lakhs per coach. Each vestibuled train will carry 2500 commuters in comfort.

This Mass Rapid Transit System, from Dum Dum to Tollyganj, passes under the busiest, North-South travel corridor of Calcutta.

When completed, the Metro will have 17 stations, of which 15 will be underground. The two terminals at Tollyganj and Dum Dum will be on the surface. The railway will have separate up and down tracks. The stations will be roughly one km. apart. Even though the train will have a maximum speed of 80 kilometres per hour' the average speed will work out around 33. The Metro is designed to carry 17 lakh passengers daily. The Metro will run trains, one following the other, at 90 second intervals. Travel by Metro will be pollution-free and dust-free.

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The ills which afflict public sector

NEXT ISSUE

What price this hill development ?

Public distribution system strengthened

To contain the inflationary pressures, the public distribution system (PDS) has been further strengthened by opening more fair price shops and stepping up the supply of essential commodities at reasonable prices. The number of fair price shops increased from 2 93 lakhs in April, 1983 to 2 97 lakhs in October 1983. Over two-thirds of these shops are located in the rural areas.

Foodgrains distributed through PDS during the current financial year (upto December 1983) amounted to 11 6 million tonnes which was higher than 11 1 million tonnes distributed in the corresponding period last year. The total distribution is expected to touch 16 million tonnes during the year.

Seven essential commodities are supplied by the Central Government to the State Governments and Union Territory Administrations for distribution through the public distribution system to the consumers. These essential commodities are wheat, rice, sugar, edible oil, kerosene, soft coke and controlled cloth.

However, they have also been given the option to procure certain additional essential commodities which they considered necessary on their own and make arrangements for their distribution through the fair price shops to the consumers. □

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OUR CONTRIBUTORS

Prof. Yash Pal—Chief Consultant, Planning Commission; **P. K. Kaul**—Finance Secretary, Government of India, New Delhi; **Dr. G. N. Seetharam**—Faculty Member, Administrative staff College of India, Hyderabad; **K. Ramesh**—Department of Economics, University of Mysore, Mysore; **Dr. T. Surya Narayana Rao**—Prakasam Institute of Development Studies, Hyderabad; **G. V. Joshi and Paul A. Rego**.—Lecturers in Economics, Mangalore University, Mangalore; **Navin Chandra Joshi**—Reader, Deptt. of Economics, Motilal Nehru College, New Delhi; **Dr. V K. Ramabhadram**—Family Planning Foundation of India, New Delhi; **Dr. R. N. Hadimani**—Assistant Professor of Sociology, Institute for Social and Economic Change, Bangalore: and **Dr. N. N. Sood**—Associate Professor, Dr. R. P. Centre for Opthalmic Sciences, All India Institute of Medical Sciences, New Delhi.

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Creative communication for "final freedom"

Prof. Yash Pal

To achieve the "final freedom" from determinism imposed by past dogmas India must have a countrywide message system at a cost which is miniscule. We can colocate people-based information and support systems to help the large number of development programmes we are involved in. We can give voice to those who are seldom heard, create human stories not only from big towns but also hundreds of thousands of hamlets in which India resides. We can use simple equipment to create images of our land, thoughts, desires, hopes and pleasures of our people.

THIS LECTURE is about the "final freedom", to which we must aspire individually and collectively. Freedom from determinism imposed by past dogma is a necessity. However, the "final freedom" is equally jeopardised by un-understanding non-participatory drives towards islands of modernity, based on total turnkey imports of technological systems from abroad.

*Summary of the lecture delivered by prof. Yash Pal, Chief Consultant, Planning Commission, New Delhi on March 1, 1984 at the Institute of Economic Growth, Delhi. The views expressed are personal and not necessarily those of Planning Commission or Government of India.

Creation of science and technology is an inte part of human culture. True development statu not measured by a snapshot of things in peo homes, or available in the market place, but thro the quality of the process through which these th have been acquired.

Being engaged in the creation of knowledge techniques is an important symbol of a cultu society; the maner in which the snapshots m into each other an dthe sequence in which they a is equally important.

Towards a delightful wholeness

In the present wold, futures are to be created, borrowed. Every time we do not pick up or adva a technical innovation done at home, our future w a little. Some of the grooves made by technologic advanced countries are deep and precious. We e those who went ahead because they had more fr dom. But if we realise that the dimensions of space are somewhat different, we can exercise eq freedom—freedom to meander around the groo make use of it when required, but retain, and exerc the option to jump out and make new marks.

Those who come later have the advantage of be able to make use of the bricks created by the v guard. However, this advantage turns into slav and decadence if the attempt is confined to mak the exact structures and edifices that the lead fashioned for themselves.

This amounts to determinism, a surrender of choice. Most of the bricks are useful, but only when they are supplemented by some of our own slabs and stones and used for creating edifices that accommodate the distinct edges and pretty curves of our society, can we move away from determinism and towards a delightful wholeness.

A country-wide message system

Specifically in regard to communication, we are in the midst of a tremendous adventure. If after a number of exuberant initiatives we lapse into an attempt to create a few corners in our country which look exactly like pieces of real estate in America or Europe, we would fail our responsibility.

Considering our great needs, and fair capabilities, we can evolve systems which would do more for a large segment of human race than anyone anywhere else has done for any other segment. We can introduce systems and services which are appropriate to our requirements, and the basic technology which has arrived too late for all the developed world.

We can have a countrywide message system at a cost which is manuscure compared to the cost of installing a few million telephones. We can colocate people-based information and support systems to help the large number of development programmes we are involved in. We can give voice to those who are seldom heard, create human stories not only from big towns but also hundreds of thousands of hamlets in which this country resides.

We can use simple equipment to create images of our land, thoughts, desires, hopes and pleasures of our people. We can involve the same people in generating these images, which can then jump the skies and touch us all.

We can use simple equipment to create images of our land, thoughts, desires, hopes and pleasures of our people. We can involve the same people in generating these images, which can then jump the skies and touch us all. We can move away from the grooves where T.V. means just extravaganzas, movies and matches and the infrastructure is based in large cities only. The problems and pleasures of continuous learning, adult education, and much else can be woven in. If we proceed this way, we will need to worry about structures too. Responsibilities for communication, broadcasting, education, health and family welfare etc. cannot stay divided. Many new organisational innovations would be required.

Awake to a new freedom

The exciting fact is that we can really do it now, ourselves. Technologically and, I hope, even organisationally. Then we will catch our new grooves. Then we shall awake to a new freedom. We would have used what is available from the world combined it with our own innovations and truly exercised a choice. A choice, not only from amongst the available, but also from the world of the possible.

I would finally express my concern that economists and planners, not only here, but the world over, have not yet been able to quantify the value of inputs which are contained in innovation, in creating and supporting technological self-confidence, in exploring, and possibly finding, ways of doing things that can't be imagined now. In this exponentially changing world, without some "measures" for these elements, and positive efforts to nurture them, channel them, future making is a very uncertain undertaking. □

Earn while you learn

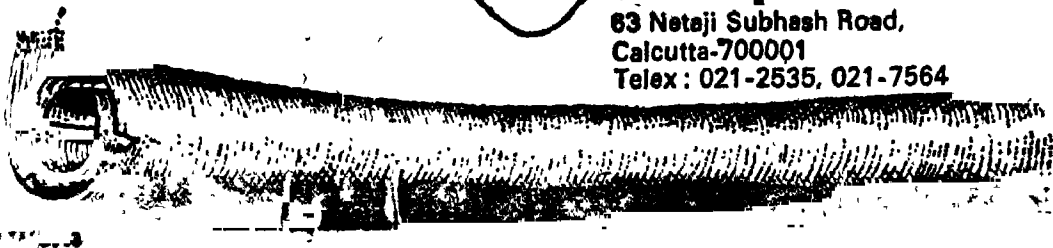
"EARN WHILE YOU LEARN" scheme of Madhya Pradesh, launched five years earlier, has been a tremendous success. Under the scheme, the school children produced goods worth Rs. 1 crore last year. The items produced are Tatpati (Mats) chalk-sticks, sealing wax and school furniture. These items are produced under the guidance of the teachers who get remuneration.

The scheme has so far benefited about 26,000 boys and 2,000 girls spread over 354 centres all over the State. These boys and girls earned a total of Rs. 8 lakhs. The bonus paid to teachers was Rs. 1 lakh.

Under the scheme, production of only such items are taken up as may have regular consumption in the Education Department itself thus doing away with the problem of marketing of the goods so produced.

The objective is designed to attract the non-entrants to school, to provide opportunities to the drop-outs to earn money to enable them for complete atleast the elementary education and to help them utilise their leisure hours in learning a productive skill.

The capital investment in raw material is made by the Khadi and Village Industries Board of the State.

The scheme endeavours to tackle three major problems relating to shortage of capital, consumption of finished goods and remuneration of students from profits earned on finished products. The approach is essentially Gandhian in visualising a "work and learn" relationship. Initially there was scepticism about the quality of goods and their marketable value. The experience of last five years has dispelled such misgivings and now the scheme is quite popular. □

The ills which afflict public sector

P.K. Kaul

No country can have a situation where the basic public sector undertakings end up with large losses which have to be subsidised or met out of taxation. Public sector enterprises have to be managed on lines which lead to efficiency and profitable working and yield surpluses which will become available for further investment, says the author.

THE PUBLIC SECTOR, whether under the Centre or the States, has assumed great importance. Today a very large percentage of our total investment and its output forms a very large percentage of our National Product. With these levels of investments it is necessary that these organisations function at a level of efficiency which is commensurate with what is available elsewhere and also commensurate with the expectations which people have from the public sector undertakings.

The situation in the world today is of a kind where interest rates are very high, wages have gone up considerably—I am talking not only of India, I am talking of countries all over the world—and efficiency of operation and management is becoming the most important factor in the running and working of industrial and other production units. Everywhere we find that there are problems.

Management skill

There have been problems of recession in the developed countries, and they have been able to get out of it only after ensuring a more efficient management of their industrial undertakings. We have the case of United Kingdom, where, you are aware, what kind of economic difficulties that country has gone through, and how they had to get out of it only after a very strict implemenation of economic discipline. In the management of public sector enterprises also they had to display a level of management skill which alone enabled them to get out of this difficulty. However, today, I personally find and feel that progressively we will have to be very very careful about the way our public sector units are managed, because otherwise inefficiency, if it is allowed to creep in, will create lots of problems, and things will become extremely difficult.

No country can have a situation where the basic public sector undertakings, which have been established to run the utilities, to run social services, perform in a manner in which they end up with large losses which have to be subsidised or which have to be met out of taxation. But what is taxation ?

Taxation is the income-tax that is paid by the salaried and other persons. It is income generated from excise duties and customs. Progressively you cannot have a situation where the tax system and the revenues emerging from these two sources or from the profits of certain commercial enterprises whether industrial or trade, year after year, continue to meet the growing losses of public sector enterprises whether it is a production unit,—whether it is a service unit, whether it is a utility. Up to some time one can manage, but beyond that it will not be possible to manage at all.

It is very appropriate that all those who are today engaged in the management of the enterprises get together to share their experiences and also to find ways and means whereby the total functioning of these enterprises is raised to a much higher level of efficiency, profitability and modern management. I wanted

*Inaugural speech at the one-day National Conference on Coordination Machinery of State Public Enterprises, New Delhi, January 5, 1984.

to explain this background because I think that continued deterioration in the functioning and growing losses is something which no State or no country would be able to manage or accept hereafter.

Element of coordination

I would really like to emphasise three aspects. The first relates to something which I would label as coordination. The number of public sector enterprises has increased enormously, not only in the Central Government but also in every State. For every conceivable kind of activity public sector undertakings have been established, whether it is regional development, whether it is electricity generation, whether it is power distribution, whether it is construction of roads, bridges, civil works, or trade, or production, we have a variety of areas and activities where the public sector has now got into. With such large numbers operating in every State, it is very important that some element of coordination should exist. We cannot have thirty, forty, fifty, sixty of them differ from one state to another, all operating so independenly that Government does not know what is happening And from that point of view wherever in States, Bureau of Public Enterprises have been established, in whatever form they are in my view it will be a step in the right direction. And those States where such coordination machinery has not been established, may be advised to consider the desirability of doing so.

No doubt, some public sector enterprise managers will not welcome this because it might limit their flexibility or freedom of action. But in the overall interest of the States administrative department for that particular function, to control or manage all the enterprises, and some kind of a co-ordinating machinery becomes absolutely essential. So, I would strongly commend this practice to such States where a co-ordination machinery has not been established

One can question or ask as to what kind of function should be undertaken by the co-ordination machinery ? To what extent should it impinge on the freedom of the public enterprises ? This again, becomes a very debatable question Many people have different views. But there are certain aspects which do need to be co-ordinated and I will just list some of them.

Training facilities

One is about the facilities for training There are lots of common requirements of the various public sector enterprises. There may be requirements related to marketing function, there may be requirement related to management functions, there may be requirements related to production functions There is no point in 35 different public sector undertakings all trying to set up their own individual training institutions for some five engineers, or six marketing managers, and three clerks and four stenographers That kind of a thing is a wasteful duplication of effort.

There is a large measure of commonality in the requirements of these public sector undertakings, and there is great advantage in such bureau or co-ordinating agency, whatever name you may like to give it, performing this role of trying to provide for co-ordinated arrangements for training of the people who are supposed to work and operate these public sector undertakings.

You can start at modest levels by beginning with lower levels of staff and then can go up gradually. You can co-ordinate arrangements for recruitment from the Universities or the specialised institutions that may exist in your respective States. Training and recruitment in my view are two very important areas which can be subjected to some kind of co-ordinated arrangement at the State level without impinging on the autonomy of the public sector undertakings. A co-ordinated arrangement will also help in the sense that it would avoid the necessity of having too many requirement systems.

Today, at the national level also the attitude is why make the participant go through a system of ten or twelve different recruitment examination. It is a waste of time for him, it is a waste of energy on the part of those who have to organise these things. It is much better if you pool all the requirements, have a common agency, and make the recruitment through that common agency. It also helps in introducing an element of objectivity in the whole system. The subjective elements of individual recruitments also get eliminated in this process and things like favouritism, nepotism, all get eliminated to a large extent. Training as well as recruitment are two areas which can be very profitably taken up as a co-ordinating function by whatever co-ordinating agency established in the States.

Labour relations

Similarly, there is an area called labour relations, wage increases, wage discussions, wage negotiations. You may have more than one public enterprise operating in the same sector and if they start negotiating separately and end up with different results, it may cause a lot of embarrassment to the local administration as well as to the State Governments. So, wage negotiations and labour relations, labour policies also, are fields which can be subjected to such kind of co-ordinating arrangement without any deterimental effect.

In labour policies our experience shows that somehow public sector is far too soft, which is perhaps due to a feeling that they can always depend on the budget to make up whatever losses they incur. We have to try to analyse this, and we would notice that over a period of ten years or so, the increase in salaries and benefits given by the public sector are more than the price rise. Whereas if you make a comparable study of the private sector you find that the comparable wage increases much lesser. It shows two things.

One, the will to undertaken real good negotiations seems to be absent. Secondly there seems to be a growing sense of complacency arising out of the fact that there is always somebody else who will pay the money to support losses and make up whatever is given away. These are the problem areas.

(Continued on page 14)

Major role in national economy

Dr. G. N. Seetharam

The public sector in Italy plays an important role in the national economy. It has achieved the commanding heights of economy. Lately, with the blowing of conservative winds from the north the raison d'etre of public enterprises is being brought into question, says the author.

A ROLE FOR the public sector has been envisaged in the Italian constitution. At a certain stage in the development of the economy a clear role was seen for planning but since the early seventies planning has been abandoned. Parliamentary control over the public sector is weak. The power exercised by the Council of Ministers is also weak and various ministries follow policies of their own which are sometimes contradictory. This is due to the heterogeneous nature of the Italian cabinets.

Forms of public enterprises

The categories of public enterprise are : departmental agencies, public economic agencies and companies with a public shareholding. Of these, departmental agencies represent the oldest form of organisation of a public enterprise. It has been adopted for State Railways and trading bodies. A departmental enterprise does not have a distinct legal personality.

Public economic agencies were mostly created in the inter-wars period. To this category also belong the "enti di gestione" or public agencies created for the purpose of possessing and managing shares held by the State.

Companies with a public shareholding are enterprises in the form of joint-stock companies governed by private law in which shares are held by a private body.

Departmental agencies

Departmental agencies include P & T, Telephone, Railways, State Forests, State Roads and State Monopolies. In spite of differences which exist between the various departmental agencies, they are clubbed together since they have juridical characteristics in common and feature in the state budget.

The administration of these agencies is entrusted to particular authorities which differ from those of the normal State Administration. Normally there is a President who is the minister in charge of the Ministry, and a director-general, a civil servant. The Mister-President has strictly political functions, including responsibility for general directives, general programmes, determination of priorities etc. while the Director-General is responsible for external representation, direction, and the control system of the administration Then there is the council of administration which has a consultative function in relation to the director-general.

For the purpose of informing the results of the administration the agency produces an annual balance-sheet which is attached to the budget statement of the Ministry to which it is responsible. For historical and political reasons the accounts of departmental agencies include expenses not directly connected with the service that they provide and which make it difficult, if not impossible, to assess the economic value of the activity they carry out.

With regard to finance there are three types of flow of finance from the state to the departmental agencies. Firstly, they include payments from the state to compensate them for state impositions such as reduced prices etc. Secondly, the deficit of the treasury though the departmental agencies have recourse to the credit market by means of the issue of debentures and the obtaining of loans. Finally, regarding financing of investments the market is the only source of finance for many types of loans. Mostly they come from public financial institutions.

Public economic agencies

The expression of public economic agencies is used to indicate legal entities which are governed by particular laws which place them in a special relationship to the state. It has its genesis over a centry ago. The number of public agencies increased enormously

during the Fascist period. According to a recent survey (1975) there are more than 50,000 public agencies in Italy.

There are four types of agencies. Firstly, the community agencies. Secondly, economic agencies which have as their objective, the carrying out of entrepreneurial activities. Thirdly, there are service agencies and lastly organs of public administration. The first three classes predominate.

The banking sector is by and large dominated by the public sector since the inter-wars years. This includes the Bank of Italy. In 1975 the private concerns were estimated to control about 37 per cent of the short term deposits and the public sector 63 per cent. Public Sector banks include the big three banks which are referred to as banks "of national interest". Medium and long term credit is administered either by agencies founded for this particular purpose or by special sections instituted within the public-law credit agencies. The private sector is also very strong in this area.

Electricity is another example of a public economic agency. The national agency for electrical energy was a legal monopoly except for certain exceptions. In the exercise of its powers this agency is subject to the directives and supervision of (a) an interministerial committee and (b) Ministry of industry and commerce. In carrying out its activities the agency is normally governed by private law. It has a board of directors and a president both of whom are nominated by a decree of the President of the Republic. Other agencies in this area are in insurance, agriculture, ports and development agencies.

State shareholdings

These are enterprises in the form of joint-stock companies which are governed by private law and the shares of which are partly or totally owned by a public agency (not by the State). In 1937 the IRI or Industrial Reconstruction Agency was made permanent. The IRI controls companies which operate under private law. The purpose of the IRI is to provide efficient administration according to unitary principles of the shareholdings it owned in accordance with the directives on economic policy of the regime. At the begining of the fifties a similar agency was set up in the petrochemicals sector. Later a ministry for state shareholdings was instituted and all powers transferred to it. The system of state shareholding was formally created in 1956 and by the early sixties the institutional structure had acquired juridical characteristics which were clearly defined.

At present the system has the following characteristics. At the top level are state institutions (the ministry of state shareholdings, the Inter-ministerial committee for economic programme—CIPE). At the middle level, there are public entrepreneurial organizations with juridical personality distinct from that of the state ("enti di gestione") and at the base there are the operating companies, which have the juridicial form of joint-stock companies and share capital either partly or wholly owned by an "enti di gestione".

Now in between them other joint-stock companies have been formed in which the 'enti di gestione" has a shareholding sufficient to ensure control which are occupying places between the "enti di gestione" and the operating companies. They are financial holding companies and "Societa fiduciarie" which administer shareholding in companies operating in the sector.

Municipal undertakings

These undertakings are mostly in the area of water, electricity, gas, transport etc. More than 70 per cent of its empoyees are in the transport sector. The municipalized agency is the form of organization.

Public sector share

The activity of public enterprises is concentrated in the strategic sectors of the national economy. Public enterprises account for 88 per cent of the gross output of electricity, gas and water and more than half the output in iron and steel.

On the whole the public sector in Italy plays an important role in the national economy and has achieved the commanding heights of the economy. Lately with the blowing of conservative winds from the north raison d'etre of public enterprises is being brought into question. But going by available evidence public enterprises will weather the storm.

Table 1

Aggregate indicators for Public Enterprises (1973)

Impact (percent) of the national total :	
Gross output	14.7
Gross fixed investment	35.0
Employees	14.1

Source :ISTAT, "Notiziario" series 1, folio 18.

The figures in Table 1 exclude companies operating in agriculture credit and insurance and service industry sector.

Table 2

Share of Public Enterprises by sector (percentage)

	Gross output 1973	Employees 1973
Mining	30.1	14.5
Manufacturing	11.2	8.4
Food & Tabacco	7.8	9.8
Metallurgy	55.2	37.7
Engineering	9.3	7.7
Textiles, Clothes, leather, shoes, wood, furniture	1.3	1.3
Vehicles	29.6	26.3
Chemicals	8.8	6.7
Non-ferrous minerals	4.2	2.8
Others	4.9	3.5
Building	3.0	2.1
Electricity, Gas, Water	88.6	80.6
Trade	1.5	1.7
Transport and Telecommunications	49.0	72.5
Total	14.7	14.1

Source : ISTAT, "Notiziario" series 1, folio 18, 1973, 1974, 1975.

Citizen participation in planning

K. Ramesh

The objective of public participation in planning is to make it successful and to achieve community goals. It will also create a healthy relationship between the planners and the public, says the author.

THE PARTICIPATION of citizens in community planning has increased rapidly in the past few years. Planning began with civic motivation and found its way into Government. Planning is making decisions profoundly affecting the whole form and character of the community and the manner of life of its people that calls for deeply rooted citizen participation in the formulation of the objectives that the community sets for itself and establishes as guide for what Government and People will do". But today citizen participation has become the principal source of confusion and conflict. Part of the difficulty stems from society's idealised value premise concerning citizen participation coupled with an inability to make it work in the policy making.

In this paper "Citizen participation" refers to a sort of process whereby citizens who are not in official positions in planning, participate in formulating the community or urban plan and to effectuate the same. Thus citizen participation means the participation of the community's members (including officials), irrespective of their positions they hold in the society. When the majority of the society's members take decisions, it could be regarded as "Community Participation" in formulating and effectuating the goals to be achieved.

Pattern of Participation

What is the desirable pattern of citizen participation ? We can say that the ideal pattern of the citizen participation must cover the whole population of a community. Ideally the process of decision making should take into account the views of all those who have a legitimate interest in the matter at issue. Making every citizen participate in decision-making is not practical. In this connection we have to analyse some questions like : Who should participate ? Who is likely to participate ? How much participation is feasible and desirable ? On what issues—public participation is possible and desirable ? What weight should be attached to the views of well organised, articulate interest groups against the views of the unorganised public ? and how can meaningful views on regional and national issues be obtained ?

We must accept that usually the elite group of the society will take part in the plan formulation, and we must try to attract the active participation of the minority. One has to say that all members should participate in formulating and implementing the community goals (which is not possible). Further, only some interested groups are interested in planning, e.g., politically-aware members, industrialists etc. The third question should be considered after taking into consideration "community's goals to be achieved and socio-economic aspects". We must accept that the community's members cannot and should not participate in all decision-making functions, e.g., environmental planning should not be decided by all community members, but by scientists or experts. Regarding the last two questions, we should accept that the opinion of organised groups could be useful, provided these opinions should not harm or neglect the unorganised public. The views of unorganised public must be considered in formulating the plan.

Objectives of public participation

Generally the objective of public participation is to make the plan successful and to achieve community goals. The planner's function is to plan; meaningful participation is about enhancing the activity. Different classes of our society possess different goals and

objectives. By public participation we can either achieve the goals of all classes or at least we can see that the minority will not be harmed.

Another objective is to give planners full information about human needs and aspirations, to mobiles pressure for prompt and effective action; to represent more effectively the minorities, whole interest are neglected by conventional democratic procedures and to produce wiser and more responsible citizens. Through public participation we can carry public with planners and this could improve the relationship between the two; both will make easy to formulate and to effectuate a plan properly.

This sort of public participation may also replace the representative system of decision-making and may call for decentralised decision-making. The introduction of public participation techniques into the planning process implies a movement along the continum from representative to participatory democracy. Public participation will enable the people to share the responsibility, which will lessen the burden of planners (Elected members) and make a plan realistic.

Despite an appreciation of the wider considerations here we are concerned with the introduction of 'public participation' in the structure of planning process within a representative system of democracy which contains certain participatory elements. Within this system a proper public participation can serve two major objectives. First, the planning process may be improved by the dispersal and collection of information which both adds to the data available to planners and enables the local authority to canvass support for the concept of planning to meet certain community needs. Secondly, public participation may enhance citizenship by encouraging individuals or group of individuals to play a more active part in the discussion and determination of public policy.

The objectives of public participation have been summarised by the Department of Environment, Great Britain 1972, as follows ; "If the policies to be embodied in the plans are to be understood and generally accepted and if the proposals in them are to be implemented successfully, the authorities must carry the public with them by formulating, for public discussion, the aims and objectives of the policies and then the options for realising these aims and objectives. Giving the public the opportunity to participate in the formative stage will when handled with skill and understanding, not only makes the plan a better plan, but also do much to improve relationships between the planning authorities and the public participation is a two-way process."

Techniques of participation

It is difficult to say which is the desirable technique which will make every citizen to participate in planning. But we can only say that the ideal pattern of citizen participation must cover the whole population of the community for which we are planning; plan must affect the whole community and hence requires the participation of its members. But in reality things are not so. Even the most ardent supporters admit that citizens cannot participate in all decision making functions. We should also accept that for certain purposes we may get best persons (experts) to prepare a plan. The techniques presently in use include public opinion polls and other surveys, referenda, the ballot box, public hearings, advocacy planning, letters to the editors or public officials, representation of groups, protests and demonstrations, court actions, public meetings, workshops or seminars and task forces.

Each of the above mentioned techniques has got its own advantages and disadvantages. About ballot box, which is the easiest way of bringing citizens into planning, once public elect the officials, their role in planning will come to an halt. Among the methods, the representation of groups is considered as the best technique. "It has been found that it is easier to chanage the behaviour of individuals when they are members of a group or association and individuals and groups resist decisions which are imposed upon them." A combination of four or five techniques will enable the citizen to participate in planning properly We quote here the "Report of the Committee on Public Participation in Planning" of UK which says:

"Representation should be considered continuously as they are made while plans are being prepared; but in addition there should be set pauses to give a positive opportunity for public reaction and participation ......where alternative courses are available, the authority should put them to the public, and say which it prefers and why".

"Local planning authorities should consider convening meetings in their area for the purpose of setting up community forums. These forums would provide local organisations with an opportunity to discuss collectively planning and other issues of importance to the area. Community forums also have administrative functions such as receiving and distributing information on planning matters and promoting the formation of neighbourhood groups."

"People should be encouraged to participate in the preparation of plans by helping with surveys and other activities as well as by making comments."

The best technique would probably not rely upon any one method, but utilize a variety of mechanisms. One further caution, all of the opportunities for public participation have resulted mainly in the participation of the "Influentials", who include special interest groups, academics, business and industry, citizens environmental groups etc. The "average" member of the public generally does not participate, because of his lack of knowledge or interest in the subject. So the techniques should aim at attracting this "average member" and minorities in the formulation and effectuation of plans.

Discussing the techniques of participation one should glance at the hurdles to citizen participation There are a number of problems, especially more in communities where we find illiterates. Probably the single most pressing difficulty facing participation is the involvement of the citizenry at large. The political power will also sometimes discourage a group of people's participation in planning. The elites (or influentials) in our society will never allow common man in planning. Because of these vested interest the plans

(Continued on page 14)

Higher plan outlay during 1984-85

Yojana Correspondent

THE CENTRAL PLAN outlay for the year 1984-85 is envisaged at Rs. 17,351 crores, representing a 25 per cent increase over the approved outlay of Rs. 13,870 crores for 1983-84.

The Union Budget for 1984-85 places the approved plan outlay of the Centre, the States and the Union Territories at Rs. 30,132 crores, compared to Rs 25,480 crores for 1983-84.

Outlay for States/U.Ts

The plan outlay for the States and Union Territories is Rs. 12,781 crores, compared to the final approved provision of Rs. 11,678 crores in 1983-84.

The Central assistance for the Annual plans of the States and Union Territories will be Rs 5,050 crores as against Rs. 4,462 crores in the 1983-84 Budget estimates thus marking an increase of 13.2 per cent.

Increased provision for employment

Maximum support has been provided for the Integrated Rural Development Programme (IRDP), the National Rural Employment Programme (NREP), the Rural Landless Employment Guarantee Programme, and the scheme for self-employment opportunities to the educated unemployed. The total allocation for various programmes of the Union Ministry for Rural Development is placed at Rs. 932 crores —almost double the amount of Rs. 480 crores provided for in 1983-84. Allocation for the IRDP is Rs. 216 crores, to be matched by the States and is designed to benefit 3 million people. The outlay for the NREP is Rs. 230 crores, again to be matched by the States. The allocation for the Rural Landless Employment Guarantee Programme, is Rs. 400 crores against Rs. 100 crores provided for in 1983-84. An allocation of Rs. 25 crores has been made for the programme for self-employment for the educated unemployed.

The Centre has earmarked Rs. 243 crores for the accelerated rural water supply programme. The States are expected to provide Rs. 364 crores for this purpose under the Minimum Needs Programme covering 50,000 problem villages.

Development of weaker sections

An increased outlay of Rs. 209 crores in the Central plan has been provided for schemes to benefit Scheduled Castes, Scheduled Tribes and other backward classes, against Rs. 176 crores in 1983-84.

The outlay for education and culture has been raised to Rs. 204 crores from Rs. 155 crores in 1983-84. The plan outlay for health and family welfare programmes has been increased by 32 per cent to Rs. 605 crores from Rs 460 crores in 1983-84. The family welfare programme is designed to cover an additional 20 million people.

Step-up in the 20-Point Programme

The total amount allocated for the 20-Point Programme as part of the Central plan stands at Rs. 4,038 crores, representing an increase of about 47 per cent over the provision for 1983-84. This reflects all the socio-economic priorities and measures of the Government. The total provision for the integrated 20-Point Programme inclusive of the outlays to be provided to the States and Union Territories is Rs. 11,858 crores, accounting for nearly 40 per cent of the total Annual Plan outlay of the Centre, the States and the Union Territories.

Higher allocation for core sector

The plan for 1984-85 provides higher allocations for core sector of the economy, such as power, coal, railways and ports. It also earmarks higher outlays for raising petroleum production as also for intensifying oil exploration.

The total provision for various power projects is Rs. 1,764 crores in 1984-85, representing an increase of 44 per cent over 1983-84. The allocation for projects of the Central Department of Coal is Rs 1,310 crores, against Rs. 1,076 crores for 1983-84.

The allocation for petroleum is Rs. 3,127 crores, including Rs. 2,685 crores for programmes of exploration and production and Rs. 443 crores for refining and marketing schemes. The target for crude oil production is fixed at 30 million tonnes. The plan provides Rs. 200 crores for a gas pipeline project for supply of Bassein gas to new fertilizer projects to be set up at Bijaipur, Jagdishpur, Aonla, Babrala, Shahjahanpur and Swai Madhopur.

The provision for the railways is Rs. 1,650 crores, which is 23 per cent more than that of 1983-84.

An allocation of Rs. 201 crores has been made for development of ports, including Rs. 27 crores for deepening of the Madras harbour.

The plan outlay also envisages higher allocations for steel, cement, paper and various other sectors important for the industrial growth of the nation.

The provision for the public sector steel plants is Rs. 535 crores against Rs 282 crores in 1983-84, for cement production Rs. 70 crores, and Rs 100 crores for the Hindustan Paper Corporation and Rs. 4 crores for Nepa Mills.

Besides, the Centre has announced its decision to reward States which manage their finances well with "some additional assistance" in 1984-85 financial year under a scheme being worked out by the Union Ministry of Finance.

Budget at a glance

	1983-84		1984-85
	Budget	Revised	Budget
Revenue receipts	20,594	20,964	23,744 +273
Revenue disbursements	22,419	23,339	26,342
Revenue surplus deficit	(—)1,825	(—)2,375	(—)2,325
Capital receipts	12,656	15,965	16,757
Capital disbursements	12,417	15,685	16,194
Capital surplus deficit	—239	+280	+563
Overall deficit	1,586	2,095	1,762

*The revised deficit includes Rs. 400 crores provided as loans to States to clear their over drafts.□

(Continued from page 8)

Management field

The third area which I think is very important and which needs coordinated approach is the area of management. As I said in the beginning, the management of enterprises is going to be more and more important and more and more relevant factor in all aspects of public sector functioning. You cannot have a system whereby the management is very poor and weak and exposes a lack of basic understanding of economic and industrial and commercial activity and it does not function efficiently. Efficiency in management is going to be a paramount requirement in the future. I do not see any escape from the fact that management of public enterprises has to improve.

There cannot be any justification for continued loss and as I said no economy can continue to bear the burden of continued losses. Modernisation of management techniques, introduction of more and more improved or more relevant reporting systems, data collection and its analysis, information control, etc. are a host of techniques which are available in this whole sector.

When new public sector undertakings are being set up there is no point in developing a kind of a structure which is disproportionately designed and right from the very beginning leads to the inefficient management. There is no ready-made solutions for this. There are various techniques that are available and there are various techniques that get discussed from time to time at various places and it will be the job of co-ordinating agencies, bureaus, or whatever name they have, to ensure that the management of their public enterprises is run on modern lines, on lines which lead to efficiency, and profitable working and will in a sense give results or give surpluses, which will become available for investment. I personally feel that the coordinating agency would be a very important instrument in achieving this thing.□

(Continued from page 12)

are being prepared, without public participation. At times planning officials (or politicians) once they are elected to these posts, they prepare the plan and may neglect the opinions of people, or may not even allow public to participate in planning. Another problem is reluctancy among the general public. This may be due to their socio-economic position in the society. However, there are greater chances of public participation in dynamic societies, where we can see a sort of interest amongst the public. We should try to create awareness among public that they are the decision makers, which will automatically increase the citizen participation in planning.

The demand for greater public participation is increasing day by day in all societies, which must be appreciated by every one. At the same time the concept "Citizen participation" is becoming more and more complex, leading to confusion. There have been claims that the public is not adequately consulted, and it is certainly true that much of the input from members of the community is largely hidden from public view. If there is to be a greater and more effective participation, it must take a variety of forms which will be suitable for different purposes. All methods of public participation involve a cost, both directly in specific expenditure on the holding of meetings, the preparation, distribution, and analysis of questionnaires and the like, and indirectly as opportunity costs in relation to the time of officials and ministers, and as costs that may result from delays in making decisions. If participation can be directed to local area involvement then there is hope that the broader civic issues and regional questions will become of more relevance and interest to all citizens. □

Voluntary effort for national integration

Dr. T. Surya Narayana Rao

While discussing the dimensions of national integration the author calls for promotion of harmony and spirit of common brotherhood among the people of India transcending religious, linguistic and regional diversities besides upholding and projecting the sovereignty and unity of the country. Voluntary organisations have a vital role to play in this direction, he says.

NATIONAL Integration is like an orchestra where several hands quite different from one another, produce a unified effect. It is a union of many sounds flowing from various angles and structures. None runs away, nor sowings out of step. It is a centripetal and centrifugal exercise in excellence. So is India, a Union of States and a union of cultures, races, regions and languages.

The basic principles that make this Union possible and prosperous include : The principle of free and open society; the principle of identity and individuality of each culture; the principle of non-discrimination and non-exploitation; and the principle of dynamic change and response to times.

India has rejected outright the theory and practice of domination and exclusive claims of superiority of any system over any other in any form or name. There are so many constitutional, executive and social provisions to ensure peace and integrity of the nation. But there are forces which refuse to distinguish freedom from licence; assertion from aggressiveness; persuasion from appeasement; unity from uniformity.

As the divisive forces arise from multiple ranges, the unity forces too should operate from a multi-pronged logistics.

Among the champions of national unity and integration, voluntary agencies occupy a key place and constitute the first line of defence. What qualify the voluntary agencies to take up this responsibility include : their informal and non-governmental character; nearness to the grass roots community; sense of service to their brethren; flexible but resolute convictions, and concern for the people and the nation with a personal touch.

If small is beautiful in economic affairs, it applies to voluntary agencies too, in their operational frame. They must work with the grass roots community—be they workers, shop-keepers, employees, peasants, housewives or elderly people.

They should take up social and civil problems like sanitation, health care, family welfare, dowry and public amenities on a continuing basic involving the local youth and social workers. Common festival get-togethers must be organised on all important occasions demonstrating that the nation is one community with many cultures. Since Home is the first school for all, national ideas, patriotic attitudes must be cultured there constantly.

Eternal vigilance and continuing activity should inform the basic character of voluntary organisations. Naturally they are different in their specialisations—social, cultural, economic, academic or professional, but they are united in their ultimate goal, namely, the security and integrity of the nation.

The very preamble of the Indian Constitution declares that ours is a secular democracy, ensuring equality and fraternity of all.

Voluntary agencies should educate the public regarding their basic rights and at the same time, it shall also be their function to see that Fundamental Duties are respected by the citizens. No nation is built by breathing the laws that make it. Part IV.A of the Constitution entitled 'Fundamental Duties'

(*Contd. on page 28*)

Technology transfer to developing countries-1

G.V. Joshi and Paul A. Rego

The problem of choice of appropriate technologies is one of the most challenging in the field of economic development. The authors describe the channels for technology and the need for transfer of foreign technology to the less developed countries.

ANALYSING THE impact of modern technology on the process of development in the LDSs (less developed countries), Simon Kuznets once remarked, "One cannot understand what is going on in these countries —what has been going on, and what is likely to go on in the future—without recognising that they all bear the imprint of modern technology."

One thing has become quite clear from the efforts of the past several decades, namely, that the process of development in the 'Third World' nations is much more complicated than anyone imagined at the end of World War II. Many are the obstacles that these countries have to encounter. Many are the problems that the policy-makers in these countries have to face, practically in all sectors viz., primary, secondary and tertiary. One of the most vexing problems, we can say, is one of choosing technology. To quote Oldham, 'It is probably no exaggeration to say that the problems of *definition* and *choice* of appropriate technologies is one of the most challenging in the entire field of economic development.'

What is technology ?

In the light of Oldham's observation, we may consider some definitions of technology. A general definition is that it covers "all the scientific and engineering activities in the process of industrial innovation." It is also defined as a set of craft techniques. In economics, technology is defined as a bundle of spectrum of techniques which define the various combinations of inputs which will yield any given physical output. Technology thus defines a production functional.

If we assume for the time being that an appropriate technology can be defined, two questions arise : (i) Is an appropriate technology already available in the world and available for import ? or (ii) Should domestic research be undertaken to develop it ?

B. Bonin lists the channels for the transfer of technology trade in goods; purchase of specialised services; personal contact; technical assistance agreement; presence of foreign military troops; voluntary leakage, observation and imitation and licensing joint ventures. It needs to be stressed here that the key to technology transfer process has been the Goliath of the 20th century, the multinational corporations (MNCs) which can operate in the most of the abovementioned areas simultaneously.

Growth promotive effects

That the LDCs themselves require the advanced technology (i.e., technology evolved in the developed countries) indicates its significance in the process of development. On occasions more than one, the LDCs have expressed their desire to have access to the advanced technology. For instance, the Manila Declaration adopted by the Group of 77 in February, 1976 states, "Developed countries should grant developing countries unrestricted access to existing technology irrespective of the ownership of such technology."

In fact, the developed countries (DCs) have also realised the importance of making more technology available to the LDCs. Kissinger, in his Nairobi speech before UNCTAD IV, noted that developed and developing countries should work together toward creating an environment conducive to technology transfer. He then proposed that "Voluntary guidelines be developed that set forth the conditions and standards of technology

which encourage, facilitate, and maximise the orderly transfer of technology."

The benefits that flow from the transfer of technology are indeed many and varied. In the first instance, the developing countries can enjoy fruits of Research and Development (R and D) by effecting the transfer of advanced technology. J. A. Schumpeter stressed the importance of R and D by emphasising on 'Innovation.' Empirical evidence for the DCs has also brought out the fact that the impact of R and D activities on subsequent economic growth has been positive and significant. The LDCs, confronted with bottle-necks such as shortage of resorces and lack of a trained corps of technical cadres cannot take up R and D activities at once on a large scale.

Under such circumstances, it goes without saying that the transfer of technology serves as a short-cut for the LDCs to secure the benefits of well-planned R and D. It is important to note here that even if a country has a stong indigenous capacity, it can benefit a great deal from the international transfer of technology, for the assimilation of the technical advance made by other countries can go a long way to promote the growth of domestic research and development by creating 'demonstration effect.' "Autarchy in this respect is no better than in international trade", says Oldham.

The existence of 'technological dualism' to make use of Benjamic Higgins's expression acts as a deterent on the process of development in the developing countries. If we look at agriculture, industry, transportation, or education in these countries, we find only a small nucleus that reflects modern technology. So two sectors are existing side by side, a very small modern sector, and a much larger traditional sector.

A developing economy cannot afford to turn the clock back by expanding the traditional sector. On the contrary, it has to take up plans for modernising the traditional sector. In the context of modernising the traditional sector, the importance of transfer of advanced technology is keenly felt. It helps to fill up, at least narrow down, the gap between the technological requirements of development plans and the domestic stock of technology.

Technology and development

Technical progress and economic development are closely related with each other. J. R. Hicks's version of the classical model of 'stationery state' drives home the fact technical progress can permit both capital accumulation and growth of national income to go on taking place indefinitely. It also shows that technical progress is even more essential for growth than capital accumulation. Even Kenneth Galbraith, who assigns a subordinate role to technological change in affluent societies, contends that it has virtually brought forth a 'technocratic managerial revolution' in these societies. It is now generally accepted that technological progress by way of better organisation and management, more effective and skillful labour, improved materials, equipment and process, can act as a prime-mover of economic development.

The LDCs cannot wait until their own scientists and engineers can achieve technical progress. Waiting, in this context, has no reward, but only a penalty. By effecting the transfer of technology from the DCs, a developing nation can also hope to realise a technocratic managerial revolution, though of a lesser degree. In other words, the transfer of technology can work as a readymade solution in the developing countries. It can certainly create a favourable mental and psychological climate for attaining a higher rate of development.

Further, J. M. Keynes's concept of multiplier may also be referred to. According to the theory of multiplier, a rise in investment gives rise to an increase in income not equal to the amount of investment but a certain multiple of it similar to the ripples that are formed by throwing a pebble into a pool of water. The multiplier theory cannot work fully and freely in the LDC because of the structural rigidities and problems like the scarcity of working capital in industries, non-availability of skilled labour and technical personnel. The transfer of advanced technology, which may be also accompanied by the flow of foreign capital and transfer of skilled labour, can be instrumental in creating the environment necessary for the working of the multiplier theory.

Trade dimensions

Indeed, the trade dimensions of technology transfer are worth remembering. The theoretical format most commonly used for tracing the implications of technology transfer on the trade structure of developing countries lies in the new body of theory on trade called the Product Life Cycle, (PLC) model, associated mainly with C. Hau fbauer, R. Vernon and S. Hirsch.

The PCL model emphasises the competitive trade advantage of developing countries when technology is transferred for local manufacture. The locational advantage results in a pattern of specialisation based on the specific situation obtaining in each country. The dynamic aspect of comparative advantage results in a change reflected in commodity composition. The export structure becomes biased in favour of manufactured goods. Changes in the commodity composition proceed in a cyclic pattern with the export of raw materials and primary products slowly giving way to the exoprt of manufactured goods. The transfer of technology under the PLC model thus promises export potential from developing countries.

The import trade, a vehicle for transfer of technology, can also serve as an engine of growth. It can provoke inquisitiveness in the host country. Indigeneous entrepreneurs may try a hand at producing the same material (i.e., imported material) provided the technological gap is not too big e.g., the textile industry in India before World War II. Besides, trade in goods promotes competition and import substitution as in the case of the Indian steel and cement industries. By purchasing producer goods, the technology-importing countries can capture the benefits of embodied technology. We may note in passing that Italy gained a lot by purchasing embodied technology even at a very high price.

The transfer of advanced technology can enable the developing countries to translate their dream of rapid economic development into a solid reality.

(To be continued)

Major thrust needed in marine exploitation

Navin Chandra Joshi

Calling for a major thrust in marine exploitation, the author says, there should be a uniform policy on regulating mechanised fishing with a replacement of timber boats by fibre glass boats. Besides, a fisheries development corporation at the national level may be set up to oversee and monitor all programmes of development.

AS A RESULT of the induction of large mechanised foreign fishing vessels by Indian companies of exploiting the fish resources of the high seas, it is now estimated that there could be an increase of over Rs. 40 crores in the exports of marine products during the current year. The total foreign exchange earnings from the export of fish and their products is likely to exceed Rs. 400 crores this year against Rs. 362 crores last year and Rs. 250 crores the year before. At present about 80 mechanised foreign vessels are operating in the Indian seas. They are allowed to fish in the exclusive economic zone (EEZ) but only beyond 23 km. of the coastline.

India is endowed with rich marine resources. There is a vast potential for fishery development and it is emerging as one of the growing items of India's exports. While India has so far concentrated mainly on the vast potential of shrimps, deep sea fishing for other rich varieties, tun fish, for instance, has a tremendous scope for exploitation, given the right type of inputs and facilities.

Fish production

Today fish production in India is about 2.2 million tonnes a year from marine and inland fisheries. Of this, about 67 per cent is contributed by the traditional sector, about 32 per cent by the mechanised sector and only 1 per cent by the deep sea fishing sector. Most of the vast EEZ comprising about 2 million square kilo meter is not being exploited at present due to paucity of suitable vessels.

The estimates of the potential catches (sustainable annually) of the Indian Ocean varies from 11, million to 60 million tonnes, apart from mesopelagic fish which may have an annual potential yield billions of tonnes. In the EEZ itself, the most conservative estimate of annual potential yield is 4.5 million tonnes. With our annual marine catch hovering around 1.5 million tonnes, exclusively from territorial waters, it appears that we have reached the saturation point with regard to the exploitation of our territorial waters. Our energies and priorities should therefore shift to the virgin EEZ and international waters. This calls for the deployment of deep sea fishing vessels with high endurance and capable of deep bottom trawling, mid-water trawling, pelagic trawling, purse-seining and tuna fishing techniques.

The main rivers and tributaries in India consist of 20,000 km of waters. The estuarine fisheries comprise an area of 2.6 million hectares while culturable fresh waters in the form of ponds and tanks are estimated to be 1.5 million hectares and brackish water areas also 1.5 million hectares. The total production from inland fisheries is 8,00,000 tonnes. India's rights over the oceanic resources have been further extended with the acquisition of the EEZ extending to 200 nautical miles beyond the appropriate base line. However, only a small part of it is currently being exploited gainfully because of the inadequacy of deep sea fishing facilities. Obviously, with the inheritance of such a vast resources endowment, ocean management has now assumed great importance in our national planning.

A major fish producing nation

India can become one of the major fish producing countries in the world with an estimated output of

more than 4.5 million tonnes marine fish. Exploitation of deep sea regime could be a dependable base for a major industry with possibilities of multi-level employment potential in the country. There are at present more than 1.9 million coastal fishermen who depend on the sea for their livelihood. In our effort to raise the production potential of marine resources the role of brackish water is significant as we have about 1.5 million hectares of such areas along the coastline where fish farming could be developed.

For the development of marine fisheries there are certain basic infrastructural facilities which need to be provided and which are unfortunately utterly lacking. The facilities comprise of harbours for berth, fuel, water, ice provisions, shipways, workshops, auction halls, cold storages and transportation, besides the right type of vessels and appliances, including the R & D efforts. Now the Government has planned to have five major fishing ports at Visakhapatnam, Roy Chowk (Calcutta), Cochin, Madras and Bombay. Our minor harbours, except perhaps one or two are not deep enough to take even medium fishing vessels. As such, when the large number of deep sea vessels, as envisaged by the Government, are put into operation they will need major commercial ports.

While the marine products industry is heavily export-oriented, domestic market is comparatively under-developed as marketing is confined essentially to coastal towns. The major handicaps in this connection are the meagre cold storage capacity (including freezing capacity) and the utterly inadequate transportation. Besides, non-availability of mechanised boats in sufficient number is a big handicap.

Sixth Plan targets

The Sixth Plan has envisaged an increase in the number of deep sea fishing vessels to 350 and marine exports to Rs. 600 crores from the present level of Rs. 250 crores. Experts believe that these exports can even be raised to Rs. 1,000 crores a year by increasing exploitation of the sea. Unfortunately, the high cost of diesel and restrictive government policies on joint ventures with foreign countries and chartering of vessels from abroad have been the discouraging factors to undertake deep sea fishing. The fact that trawlers from other countries find it commercially viable to come long distances to poach in Indian waters should be sufficient as an eye-opener for our government to do some serious thinking.

Fisheries development, it may be noted, covers a wide spectrum of functions from the time fish lands on shore till it reaches the consumer in fresh or processed form. No precise estimates are available of the magnitude of investments in processing, marketing and transport of fish. However, an investment of 2½ times higher than the present level is projected for meeting the marine fish supply gap of one million tonnes envisaged by 1985. The capital needs work out to Rs. 350 crores covering fish fleet, processing units and retail market outlets besides the working capital requirements of the industry.

Suggestions

The Government should immediately undertake tuna fishing in India's territorial waters in view of its potential yield of over one lakh tonnes a year. It is felt that considering the declining resources of shrimp fishery and the need for diversification of Indian fishing industry, it is necessary that no restriction whatsoever should be placed on it. Joint ventures from any country and the use of any type of vessel, equipment, technique and personnel should be allowed. The Government must accept the responsibility and undertake the pioneering role in the development of marine resources of India's exclusive economic zone. The trawler building industry in India can meet full requirements in terms of size, design, and fishing technology and as such, it needs full support and encouragement to ensure the utilisation of its full capacity.

Considering the scope for netting a larger share of the export market, the recently announced Rs. 5 crore plan of the Government to encourage brackish water fish farming is welcome. The plan is intended to increase inland fish production by 90,000 tonnes per year. The deep sea fishing companies should also diversify their operations to reduce their inhibiting dependence on shrimping. We need to build a fleet of deep sea vessels and provide the industry special tax holidays as applicable to newly established industrial undertakings. There should be a uniform policy on regulating mechanised fishing with a replacement of timber boats by fibre glass boats. A fisheries development corporation at the national level may be set up to oversee and monitor all programmes of development.

Country's first container terminal

INDIA'S first full-fledged container Terminal was opened recently at Madras Port. The plan to build a modern container terminal was sanctioned by the Planning Commission in January 1981. The execution of the project involved enormous amount of civil engineering construction, selection and acquisition of some of the most sophisticated container handling equipment. The project cost Rs. 40 crores approximately.

Madras Port today has one of the deepest drafted container berths in the world, the most advanced equipment to handle containers, 40 hectares of back up area, a sophisticated computer system and a fully trained set of officers and staff.

D. Janaki.

Family Planning: A new strategy required

Dr. V.K. Ramabhadran

The family planning programme needs a redirection towards younger couples with increased emphasis on spacing methods while maintaining the targetted levels of sterilisation. This in turn requires a change in strategy which calls for a more extensive outreach and deeper community participation, says the author.

THE 1981 census of India disclosed a population of 684 million with an addition of 136 million during the decade 1971-1981 and a decadal growth rate of 24.75 per cent or 2.21 per cent annually which shows little change from 24.80 and 2.22 respectively in the previous decade. Leaving aside the sheer size, which has, and would continue to be the foremost problem in relation to resources for development, there have been mixed reactions about the growth rate. It was the view among some demographers that annual growth rate during the Seventies may not exceed 2 per cent and hence a down turn might be expected. The 1981 census has definitely belied this expectation and one has to look into the fertility and mortality measures implied in the census data. Another body of opinion compares the growth of population shown by successive censuses since independence (13.31 per cent in 1941-1951; 21.64 per cent in 1951-61 and 24.80 per cent in 1961-1971) and considers the 1971-1981 growth record as a demographic watershed and as a levelling—off which is a sign of a potential decline in growth rate in future. Another type of consolation drawn is that compared to other populous developing countries, India had the lowest population increase of 89 per cent in the period 1951-1981 while the Philippines recorded a 143 per cent increase.

While this is a cross-section of opinions about the national growth, an important feature brought out by the 1981 census is that the problem of rapid population growth in India is essentially a regional problem. The growth rates among the 15 major States (those with a population above 10 millions) has varied from 17.23 in Tamil Nadu to 32.36 in Rajasthan. Also in 7 States (with a total population of 340 million) the growth rate has increased imparting a higher momentum to population growth.

Thus the implications of the 1981 census for policy action are both at the national level and at the State level. It is also seen that in States where the growth rate has dropped, the prime explanation is generally fertility which is further emphasized by the fact that the mortality conditions had improved during the 1970s. The 1981 census growth rate brings into focus the different combinations of birth rate and death rate in different States indicating different phases of demographic transition.

Fertility transition

At the national level, set against the goal of NRR = 1 (implying a birth rate of 21 and death rate of 9.2), the trend in the birth rate during the second quinquennium of the Seventies is to plateau around 33 per thousand. Does this mean that in line with the two-stage fertility transition of developing countries, India has only attained the first stage—after a drop from higher (40+) to moderate 33? This drop has been brought about through a family planning programme largely built round sterilisation and accepted by high parity (3+) and older couple (wife aged 30+) through a natural motivation without any large-scale socio-economic development. High parity couples accounted on an average for over 60 per cent of acceptors of sterilisation in the 1970s. The contraception level is itself plateauing at 23 per cent during the last few years (with sterilisation accounting for 20 per cent).

The implications for the future are twofold, if a further and continuous decline in fertility is to be achieved marking the second stage of fertility decline.

Firstly, the family planning programme needs a redirection towards younger couples with increased emphasis on spacing methods while maintaining the targetted levels of sterilisation. This in turn requires a change in strategy.

Unlike sterilisation which could be organized mostly through a governmental set up, spacing methods require a more extensive outreach and deeper community participation.

Community-based system

Fortunately, as has been demonstrated in countries in Asia and Latin America, spacing methods are specially suited to a community-based delivery system with the government ensuring adequate and continuous supply of contraceptives.

Secondly, a fertility decline (from moderate to low level) involving a larger proportion of younger couple requires a reasonable level of socio-economic development as a pre-condition to create the appropriate motivational environment. Thus the second stage of fertility decline in India requires that family planning during the decade 1981-1991 should be made consistent with the needs and economic well-being of the people. Development has to be increasingly population-oriented, particularly towards rural areas and urban slums if the second-stage decline should commence without further delay and a birth rate of 26.0 is reached by 1990/91.

In order to indicate what type of developmental activity is to be assigned priority in conjunction with the family planning programme, it is advantageous to classify the 15 major States (with 93 per cent of the total population) on a demographic transition scale, based on the vital rates for 1980.

Class vital rates		Stage of transition	Major States	Percentage of population
High birth rate High death rate	(37+) (15+)	Early [E]	Uttar Pradesh Bihar Madhya Pradesh Rajasthan	39%
Moderate to high birth rate Low to moderate death rate with high infant mortality	(30—37) (10—15) (120+)	Middle [M]	West Bengal Andhra Pradesh Gujarat Haryana Orissa Assam Punjab	29%
Low birth rate Low death rate	(below 30)	Forward [F]	Maharashtra Tamil Nadu Karnataka Kerala	25%

Though some States do not ideally fit into this broad classification on the basis of their 1981 census growth rates, the objective of the classification in terms of requirements of the family planning programme may still be relevant. The Class 'E' States in the early stage of transition with 39 per cent of the population require a strengthening of both family planning and health programme as a matter of priority. In the 'M' States in the middle level of transition, the indications are that the family planning programme requires a focus on rural areas in terms of quality and outreach while the health programme has to be specially directed to control of infant mortality which acts as a psychological barrier to fertility control. In the 'F' group of States which have entered the second stage of fertility decline and are poised for the completion of their demographic transition, a progressive record of socio-economic development side-by-side with family planning would be required to sustain and improve the contraception level in the community. It is expected that once a critical percentage of couples are protected the acceptance of a two-child norm could become a self-generating process within the society.

Courtesy : Asian Pecific Population Programme News

A case study

Low agricultural entrepreneurship

Dr. R.N. Hadimani

Much has been said and written about grinding poverty of vast masses, especially of the rural folks. But such issues as—why marginal and small farmers remain poor and underdeveloped and why they are not making efforts to develop as big entrepreneurs-have not received much attention. Bigger farmers are not only few in number but also gaining lands, while smaller farmers, though very large in number, are losing lands.

AGRICULTURAL ENTREPRENEURSHIP is low in India. This, alongwith the predominance of the agriculture, mainly accounts for the grinding poverty of vast masses. The present paper aims at making a sociological diagnosis of the problem, that is, investigating the whole range of factors directly or indirectly contributing to the problem.

Who is an agricultural entrepreneur in India? What are the constraints under which he is operating? Are these constraints common to all sections of the agricultural entrepreneurs? Have developmental programmes not helped them to come up in their venture? And, what can be done to develop their entrepreneurship? The present study was conducted in Chakrabhavi village of the Bangalore district in Karnataka.

In 1977, the village had 273 households, among which 235 (86.08 per cent) pursued agriculture primarily or subsidiarily. There were 194 households of land-owning cultivators, or "agricultural entrepreneurs" as we call them. Thus an agricultural entrepreneur, in the village was a person who, irrespective of the size of farm and mode of farming, coordinated resources for cultivating and developing his lands.

It was found that in terms of inter-generational career mobility, 134 (69 per cent) agricultural entrepreneurs were just stagnating. They were trying to maintain the occupational status ascribed from their parents. Whereas, the remaining 60 entrepreneurs showed career mobility, upward or downward. These mobile entrepreneurs included 28 marginal farmers, 15 small farmers and 17 large farmers. It was they, in whose case examining the role of each factor in the real life situations of the entrepreneurs was possible by studying their success or failure. Therefore, for making a diagnostic study they were intensively studied.

Size distribution

It was found that only 23.7 per cent of the entrepreneurs were large farmers (having more than 5 acres of land). They owned 61.6 per cent of the village land. Small and marginal farmers having 5 to 2.5 acres and less than 2.5 acres respectively, constituted 29.9 per cent and 46.4 per cent respectively. But they had only 23.8 per cent and 14.6 per cent of the land respectively. This shows that the numerically dominant (more than three-fourths) small and the marginal farmers, were able to own hardly two-fifths of the land. On the contrary, the large farmers being numerically weak succeeded in monopolising more than three-fifths of the land. Coming to the type of career mobility, it was found that 71.42 per cent of the mobile marginal farmers showed downward mobility, while 76.47 per cent of the mobile

large farmers showed upward mobility. In the sense, about three-fourths of the marginal farmers, were losing lands by way of division of family property, leasing-out or selling, while an almost equal per centage of the large farmers were gaining lands by leasing-in or purchasing. In general the agricultural entrepreneurship was not developing in the village.

The distribution of the agricultural entrepreneurs by size into the large, the small and the marginal groups was not complete in itself. When looked sociologically or holistically one finds that it dovetailed into several other classifications in terms of organising ability, risk taking ability, innovative spirit, achievement motivation, work ethic, work talents, necessary formal education, caste status, joint family background, access to political support and so on. This means, the development of agricultural entrepreneurship in the village depended upon all these factors, but not on just economic factors.

Organising ability

Ability to co-ordinate factors of production, namely, land, labour and capital and to administer them properly is an "essential quality of entrepreneurship". This quality was more pronounced in the large farmers than in the small and the marginal farmers. Though all of them were land owners, capacity to retain lands showed positive association with the levels of entrepreneurship. For some reason or the other the marginal farmers had a tendency to pledge lands for taking loans, whenever necessary. As compared to this, the large farmers were telling that they were the last persons to lose their lands. "Financial difficulties come to us also, but they can only reduce our hairs due to our serious thinking on evolving alternative strategies to overcome them", said a large farmer.

About co-ordinating labour factor, which was not easy during harvesting and sowing periods, it was found that the large farmers were advancing loans to labourers during summer to ensure their labour during these periods. In contrast to this, there were instances, where a marginal farmer himself would have gone to work in other's field in return to the loans advanced during summer. Though the small farmers also faced the problem of the marginal farmers, they honestly practiced mutual aid in agricultural practices and tried to overcome the problem to some extent.

The financial inability to undertake timely sowing, to apply adequate quantity of manure, to do weeding out at least thrice before harvesting and to use chemical fertilisers, better seeds and pesticides at proper time characterised the marginal and, to some extent, the small farmers. The large farmers were investing in land improvement through digging of wells, etc.

Risk taking

It refers to two things : willingness and ability to take risk. This factor was also more pronounced in the large farmers than in the small and the marginal farmers. Farmers repenting for having lost an opportunity of making money by not taking risk in growing some crop or in hoarding for some time were not rare among the marginal and, to some extent, among the small farmers. This was because they had only the willingness to take risk but not the ability to do it. On the contrary, the large farmers had both—the willingness and the ability.

Innovative spirit

In the context of village life, innovative spirit means that farmers are alert to new developments in techniques and modes of production and show readiness to incorporate some of the practicable ones, that would be enough for them to develop. Here again it was found that households using better seeds, better implements—iron ploughs, chemical fertilisers and pesticides were more among the large farmers than among the small and the marginal farmers. In contrast to this, the large farmers with some irrigated lands are attempting new crops like grapes, etc. only to see whether they could grow them in their fields.

Achievement motivation

N-achievement level or extent of psychological compulsion to achieve, which McChelland thought of as an important determinant of entrepreneurship, seemed to be nil among the marginal farmers. Instead, they had developed a fetalistic belief that their lot would never imporve and they should not, therefore, unnecessarily worry about achieving something, which they are not destined to do.

Some improvement in the n-achievement level could be found among the small farmers in their struggle to maintain their status quo. In contrast to the marginal and the small farmers, the large ones were mostly found to be comparing their lot with that of their relatives and fellow castemen in Mandya and Bangalore and regretting their inability to come up to their levels.

Work ethic

Hardwork, devotion to work, honesty in dealings, willingness to save and to reinvest these savings in production are some of the important principles that constitute work ethic. It was found that, though honesty and hardwork could be found in more or less the same degree among all categories of farmers, all of them did not give equal reverence to their calling. Some of the marginal farmers expressed their contempt for having born as farmers. "I could neither enjoy the life, nor escape from the drugery of strenous tasks", was the opinion of a marginal farmer in the village.

Coming to the willingness to save and to reinvest these savings in production, it was found that it increased with the levels of entrepreneurship. Per capita savings decreased from Rs. 16.02 to Rs. 5.85 and Rs. 0.2 among the large farmers, the small farmers and the marginal farmers respectively. The positive association could also be seen in their tendency of reinvesting the savings in production. The large farmers

used their savings for earning further through digging of well, buying better implements and seeds, opening grocery or other shops, etc. In contrast to this, the small farmers preferred to spend on unproductive items such as buying clothes, going to fairs or festivals of family or caste deities, performing family functions (such as birth ceremonies) pompously and sometimes, arranging marriages. However, a few households were found to be using their savings for starting cacoon rearing, which slightly supplemented their income, or rearing chicken or sheeps which supplied their products for domestic consumption. And the marginal farmers used their meagre savings for purposes, which were unproductive and, some times, harmful to peaceful family life. They mostly ate meat, drank arrack or toddy, played cards or took off from work wherever they saved something

Work talents

In the context of agricultural entrepreneurs of underdeveloped countries, work talents would only mean their knowledge about what and when to do certain agricultural operations, where to sell grains to earn more, how to utilise available benefits from the governments, which crops should follow each other, which crops should be grown together and so on. Here again it is found that the bigger farmers seemed to know all these things. One farmer said, 'I have divided my land among all my sons and grandsons But this is only on paper, so that all of them can claim benefits of the marginal and the small farmers." Such opinions were common among the large farmers and, to some extent, among the small ones. But in the case of the marginal farmers, some of these skills, as for instance the knowledge of using chemical fertilisers, were not evident.

Economic status factors

This category consists of wealth, membership of cooperative institutions, possession of necessary tools and animals, access to good land, etc. It was found that most of the large farmers in the village have been rich for generations. As such, they could go or adding lands, assets, etc. to their existing lot. On the contrary, the small farmers and the marginal farmer households had been middle income and low income groups at least for two generations.

Coming to the membership of the cooperative institutions, it was found that many of the marginal farmers were not members of any cooperative society. Some small farmers were members of two local cooperative societies. But the large farmers dominated the local co-operatives and some of them also had shares in the PLD Bank of Magadi. . This enabled them to utilise the government benefits such as crop loan, sheep loan, pumpset loan, etc.

Similarly the possession of necessary tools and animals also played some role in the entrepreneurship. Those who possessed all these could undertake the agricultural operations timely, unlike the non-possessors who had to hire or borrow depending upon the convenience of the possessors. The large farmers possessed all these things, while the small and the marginal farmers did not posses all of them.

Coming to the access to good land, it was found that though Ghakrabhavi as a whole was a dry village, a few acres near the village tank were irrigated. The large farmers had monopolised these lands. Whereas the marginal farmers had only dry lands, that too away from the village. A few of the marginal farmers, who had received lands through land gift policy of the government, were unhappy. For, they were given the erstwhile pastures. The per capita monthly income was Rs. 93.83 among the large farmers, it came down to Rs. 66.53 and to Rs. 47.40 among the small and the marginal farmers. As such, most of the small farmers lived below the poverty line of Rs. 65 per capita monthly expenditure. And so did most of the marginal farmers. Thus the economic conditions of the farmers at the lower levels of entrepreneurship directly hindred their development

Caste factor

It was found that most of the large farmers belonged either to ritually higher vegetarian castes such as Brahmins, Vishwakarma, Satani and Lingayat, or to numerically dominant Vokkaliga caste. On the contrary, the small farmers mostly came from intermediate castes in the ritual hierarchy, namely Kumbar, Arasaraju and Marati, just as the marginal farmers mostly hailed from the scheduled castes such as Madivala, Bhajantri, Bovi and Harijans who were at the bottom of the hierarchy. Compared to the percentage of large farmer household among the priestly Brahmins (80 per cent), among the Vokkaliga and the Lingayat castes it was not so much (less than 40 per cent). This meant that the numerical strength also could not help so much as the traditional superiority. This was mainly because of the increasing desire of the people at the higher levels of hierarchy to see that their superiority is kept up in other fields also. Besides, the lower caste villagers who were traditionally attached to agricultural labour or service, showed interest in adding lands without directly involving in actual cultivation.

Joint family background

Though small and individual families outnumbered bigger and joint families in the village, they declined in percentage with the increase in the levels of entrepreneurship. On the contrary, the joint and the extended families having more than 6 members showed a reverse trend. This suggests that size and type of family bore some relation with the economic development of the communities. Though improvement in economic conditions meant encouragement to the joint and the bigger families, it was observed that these families had certain economic advantages also. They supplied free and trustworthy man power to look after various operations in the family farm, and also undivided family property to invest in and expand the family occupation. It was, therefore, that the absence of joint families among the small and the marginal farmers did hinder their economic development.

Necessary formal education

Importance of education as an avenue of social and economic mobility is widely recognised. The per-

centage of literates was only 23.4 per cent among the marginal farmers, while it rose to 24.9 per cent and 39.2 per cent among the small and the large farmers respectively. In terms of the level of education also, 20.67 per cent of the literates in the case of the large farmers had crossed primary stage and entered into secondary and post matric stages. While in the case of the marginal and the small farmers such literates only accounted for 3.62 per cent and 3.42 per cent respectively. Persons with post-matric education belonged to only the large farmers households. This indicates that the education had something to do with the economic position and more education and higher percentage of literates meant more income and more economic development. And economic necessity of making the children contribute to family income, which resulted in several drop outs in education, was, of course, the main reason for the lower percentage of literacy and the lower level of education among the small and the marginal farmers. The lower level of education and the higher percentage of illiterates relegated them to the position of mere cultivators and permanently handicapped them from going for high yielding techniques and money making activities, explains that lack of eduaction made economic backwardness an enduring feature of the life of these farmers. In contrast to this, the higher percentage of literates and the relatively higher level of education among the large farmers motivated them to receive high yielding methods.

Access to political support

Like formal education, access to political support also influences entrepreneurship. Those who have got access to political leaders, will get benefits such as loans, subsidies, free sites, free lands, etc. which those lacking political support cannot claim easily. In this respect also, it was found that the large farmers were either themselves political leaders or close relatives of political leaders. In the case of a few, who were not related to any leader, it was found that they were buying political support by bribing either in cash or in kind (grains). On the contrary, the small and the marginal farmers did not know how to please the leaders and get the benefits. It was found that even the close kinsmen had to atleast flatter if they wanted the support of any leader. The marginal farmers need political support mostly for counselling in the division of family property, settling querrels in the neighbourhood and so on. The small farmers wanted it for some small favours such as crop loan, sheep loan, fertilisers, pesticides and better seeds. And the large farmers needed it for influencing electricity department and cooperative institutions to provide immediate electric connection to irrigation pumpsets and bigger and long term loans. Thus the tendency to use the political support for career development increased with the levels of entrepreneurship.

Conclusions and recommendations

Thus it is clear from the foregoing analysis that the success of the agricultural entrepreneurs was a joint product of several factors in operation. The large farmers succeeded in agriculture because they had most of the factors in their favour. Whereas, the small farmers and the marginal farmers failed because they lacked many of them. And the general level of agricultural entrepreneurships was low in the village since the small and the marginal farmers lacking most of these factors were numerically very significant.

This suggests that efforts to develop the agricultural entrepreneurship should be essentially multi-dimensional, oriented towards promoting all the above said factors. Though many aspects of this are covered by the SFDA and the MFAL programmes at the formulation level, they get diluted and distorted at implementation levels. Therefore, the mainstep in the direction of developing the agricultural entrepreneurship should be streamlining the implementation procedures of these well intended programmes in such a way that they easily reach the deserving cases. Besides, to prevent the same large farmers benefiting again and again, restrictions such as a farmer should not take the benefit more than once in four years should be imposed. Procedures for granting the benefits should be simple. Farmers in Chakrabhavi alleged that the existing procedures needed "twenty signatures to sanction ten rupees". Bringing awareness of new opportunities and motivating people to avail of them should be made a part of on-going non-formal education for the farm families. □

Stone cancer

Gopal and Rajesh Kumar Verma

Among the important agents of stone decay, the chief pollutant gas contains SO^2, which reacts with moisture and forms dilute acids that corrode white marble and stone. Sulphur oxidises into sulphur dioxide, which is converted into acid in the presence of moisture and causes decay of marbles and other stones. This process of marble decay is known as Stone Cancer.

INDUSTRIAL DEVELOPMENT is very essential for raising the standard of living of people in developing countries like India, but it is not costless. Economic and technical developments have brought immense and worthwhile benefits to the society. While these developments have made our life more comfortable, they have also generated lots of waste matters and created the problem of pollution. These pollutants generated by the industries ignore man-made boundaries as they know only natural boundaries and pattern established by physical features like mountains, valleys, and direction of water flow. The increase in output pollutants has accelerated the destruction of stone and marble monuments.

Agents of decay

Among the important agents of stone decay, the chief pollutant gas contains SO_2, which reacts with moisture and forms dilute acids that corrode white marble and stone. Sulphur oxidies into Sulphur dioxide, which is converted into acid in the presence of moisture and causes decay of marbles and other stones. This process of marble decay is known as Stone Cancer. This process once started is not only irreversible but proceeds further. This way marvellous historical works of architecture in marble and sand stones, such as, Taj Mahal, Agra Fort, Birla Mandir and other beautiful monuments are going to be slowly but surely discoloured and disfigured in the long run.

Marble is highly porus and consists of large crystals of Calcium Carbonate bound together by a sort of cement of the same substance. Polluting chemicals mix with moisture present in the air to make a sort of dilute acids. This flows down inside the marble pores disintegrates those tiny crystalls in the cement first and then the large crystalls fall apart too. Depending upon the crystal lattice properties of readjustment among minerals and rocks process may be sometime rapid enough to cause damage within a generation. Thus, the beautiful marble monuments become sick and finaly ruined due to Stone Cancer.

The decay of stone is mostly due to the solvent action of water and its dissolved impurities, some of importants pollutants, that attack stone monuments are SO_2, SO_3, Nos. C12, CO_2 and rain drops, sulphur is the most dangerous component of air pollutants. Minute traces of Sulphur are enough to corrode the metals. Sulphur acids formed by the reaction of Sulphur and moisture, combine with Calcium Carbonate to form Calcium Sulphate, a fluffy matter which is lighter in weight and greater in volume. Calcium Sulphate causes the marble to flake off. This process is known as Acid Rain. In fact acid rains with PH values between 2 to 5 are reported in Industrial countries such as U.S.A., Japan and Western countries, where even recent and modified pollution control techniques are used. However, acid rain has never occurred anywhere in India.

In areas with higher carbonic, nitric, and sulphuric acids in the air rain may become very acidic in nature and simultaneously very corrosive to these stones. Oxides of nitrogen and carbon and the side products of the inter reactions, can dissolve and disfigure important monuments gradually.

The marble covering stones on brick walls are set with very fine joints. Due to the thermal action, when the marble slabs expand the thin mortars in joints break out and some time the end of slabs pressing one against the other get cracked through the open joints, rain water goes down through the core of

brick walls, which become the stone house of moisture. Moisture acts as catalyst in the conversion of SO_2 to SO_3 which further oxidised turn into harmful sulphuric acid.

Chemical action

Micro organism, plant kingdom can side attack to a considerable extent both by mechanical and chemical action. The biological degradation of carbonate rocks produces gypsum through Biological reaction. Bacterias also play an important role in the process of stone decay. Fungi, slags attack on silicate matters forming carbonic, nitric, and sulphuric acid and weak acid. Lichens also damage stones by Bio-Chemical chelation. Birds and other creatures nesting in nitches in higher reaches of temples and forts also cause deterioration. Bird droppings on the building release weak acids and corrode stone by biochemical reactions. Although damage of stones by air pollutant is more than that of these biological agents, but these factors can not be neglected.

Industrial Pollution Survey was conducted in 1975 by Delhi Association Chambers of Commerce and Industry. The results of survey indicated that there was poor environmental awareness and lack of social responsibility among the Industrialists. The Government is trying to save the historical monuments from pollution and even an Act was passed to save these buildings. Many research laboratories are also engaged in this task.

It has been suggested that the decay of monuments can be checked by applying chemical preservatives. A combination of chemicals (barium hydroxide, urea and glycerons) penetrates into marble without blocking them and react to provide a hard surface against corrosive acids. A silicone resin compound was synthesized by Victoria Museum Hall, London. It forms an invisible protective layer on polluted decay. The treatment of Carbonates like lime stone and marbles with Sodium Flouride, Barium hydroxide reacts with each other and act as hardners and sealers. But all these methods have their own limitations. Treatment of marble with chemicals might have produced undesirable coloration. Suggestion of covering the marble buildings with some Plastic or Nylons layer would definitely increase the accumulation of moisture on the marbles and speed up the deterioration. In case of Indian historical monuments like Taj Mahal and other beautifully designed monuments, whose beauty is dependent upon the smoothness and white shining surface any chemical treatment may protect its physical structure and shape but can not maintain its natural beauty.

Although generation of wasted and pollutant matters is a consequence of Industrial development, it does not mean that we should stop our progress of Industrial development for the fear of pollution. The emphasis should be on pollution prevention by treatment of waste recycle and recovery of by products so that the Environment is always safe and clean. □

(Continued from page No. 15)

(Art. 51A) among other things calls upon the citizens: To promote harmony and spirit of common brotherhood among the people of India transcending religions, linguistic and regional or sectional diversities, to uphold and protect the sovereignty, unity and integrity of India, and to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem.

Two-way strategy

We have to evolve a two-way strategy to deal with the evil of regionalism : one is to build up strong public opinion against all sorts of partisan, sectarian, narrow attitudes or alignments. And secondly, the more prominent items on the agenda of national parties should be the development of all parts of the national fabric without any discrimination in the true letter and spirit of the preamble of our Constitution.

At present, no other issue has become so sensitive as that of the Centre-State relations. Without entering into the politics of the question, it is suggested that voluntary agencies take the Integration stand. There is room in the country for all of us to live together and grow together in peace and friendship.

Suggestions

Prakasam Institute of Development Studies of Hyderabad held a seminar on national integration some two years ago and analysed the issue in some depth, on the basis of discussions at the seminar, some suggestions were made which include : need for a strong political to create an effective climate for National Integration on the part of the Central and State Governments; minorities should be helped to overcome any sense of insecurity; economic and social inequalities must be removed at regional, occupational, state and national levels; Mass Media should be used for integrational purposes; Regional languages should be given maximum possible support; and efforts to be made for evolving a common scripts; Government should extend co-operation and encouragement to voluntary agencies in the national integration activities.

Dr. Rajendra Prasad, the first President of India, made the following remark at a civic reception at Trivandrum in 1956 :

> 'Speaking as I do in the southern most part of India, and coming as I do from the northern most province of India, I can speak for the whole length and breadth of this great country. I ask you living near the Cape to believe that the areas at the foot of the Himalayas are yours.....Let us all make our own contribution, however humble to make the country worthy of the past and worthy of a greater future'. □

Glaucoma-prevention and treatment

Dr. N. N. Sood

An increasing awareness amongst the community will help unearth the large number of unsuspected glaucoma cases in the country. It is an eye disease which is treatable with the optimum result of preserving normal vision throughout the patient's life. But once the vision is lost, it is lost for ever, says the eminent eye surgeon.

GLAUCOMA, popularly known as 'Kala Motia' or 'Neela Motia', is a serious killer of the sight. Nearly 10-15 per cent of the world's blindness is caused by glaucoma. Nearly 150 million Indians over 40 years of age are in the vulnerable group, and it is likely that nearly 3 to 10 million either have glaucoma or are potential candidates for glaucoma. Nearly one million cases in India may be totally blind or visually handicapped as a result of glaucoma. How late the cases come for first check-up can be gauged from 5000 cases of glaucoma seen at the Centre's hospital.

When first seen in our hospital :

2.5 per cent had lost sight in both eyes.

15 per cent had lost sight in one eye.

30 per cent had advanced involvement in one eye.

Many of these unfortunate victims did not know that they had permanently lost the sight due to glaucoma.

What is this problem of glaucoma ?

Glaucoma can be defined as loss of vision due to excessive pressure within the eye. The cause of the raised pressure may vary but the end result is the same, viz., loss of vision and ultimately total loss of sight. What is disturbing is that the condition may produce no symptoms, until the individual makes it a point to be examined. Slow visual deterioration may lead to blindness without his or her knowledge.

The normal pressure in the eye is maintained by a fluid called *aqueous humour*. This circulates freely within the eye and leaves the eye through small 'exit' channels. Certain changes in the 'exit' channels may cause obstruction to the flow of aqueous and the pressure within the eye rises. The pressure within the eye can be measured by special instruments (like the pressure gauge) called *tonometers*. The efficiency of the 'exit' channels can be measured by an electronic tonographer. The formation of the fluid is controlled by the specialized areas within the brain.

Effects of raised pressure

Whenever the pressure rises one of the ways to equalize the pressure is the opening of safety valves as in a pressure cooker. This also happens in the eye. When the pressure is "high enough" (what may be high enough for one person may be perfectly normal for another) it may damage the vital structures. In adults the raised pressure produces the effects on a weak spot in the eye, viz., the optic nerves. This nerve carries visual messages, received from the retina, back to the brain where it is interpreted as sight. The nerve is composed of more than a million individual nerve fibres. These nerve fibres may not tolerate the "high" pressure, their blood supply may be reduced (can happen due to changes other than pressure also), and nerve fibres are destroyed at the point where they bend to leave the eye. One by one these nerve fibres are destroyed producing a hallow space, as is seen in a tree which has had its core eaten up by termites. This is called 'cupping of the disc'. This indicates that gross damage has taken

place and an increase in 'cupping' indicates the progress of the disease. This can be visualized by an instrument called *opthalmoscope*.

The effect of damage to the nerves can be recorded on special types of screens and parimeters. This is called the visual field examination.

Types of glaucoma

To know the types of glaucoma, the specialists employ a periscope like device called 'gonioscope'. Glaucoma may result not only from damage to the 'exit channels' (i.e. drainpipe) but in some cases it may occur due to the block at the pupil (i.e. stopper). This produces another type of primary glaucoma called 'Acute or Narrow Angle Glaucoma'. Thus this test separates the cases of glaucoma that are to be treated with drugs (open angle|chronic glaucoma), from the cases that are to be treated by surgery (Acute Glaucoma).

Who are likely to get it ?

The 'high risk groups' include individuals :

(1) over 40.

(2) with diabetes mellitus.

(3) with family history of glaucoma.

The risk of potential glaucoma (i.e. high pressure) over 40 years is 1 in 40 (i.e. 2.5 per cent).

Symptoms

The important point is an individual may be without any symptoms, possesses a normal vision (i.e. 6|6) yet may have optic disc and visual field changes. Thus it is really important that tests are carried out to exclude glaucoma, and the first such test should be done when reading glasses are first prescribed to an individual around 40. If anyone in the family has glaucoma, and if an individual suffers from diabetes mellitus the risk is higher. Occasionally individuals may present with difficulty in night vision and rapid changes in glasses.

The acute glaucoma on the other hand has more symptoms than mere sign—pain in and around the eye, cloudiness of vision, and halos (rainbow signs around bulbs and headlights of cars) usually appear towards the evening, or when the individual is emotionally disturbed, or after watching an exciting movie or T.V. Such symptoms in the beginning last for few minutes to few hours, may disappear after sleep, only to reappear within few days, weeks or months. Such a glaucoma may produce a permanent loss of vision within a few days to weeks and needs *EMERGENCY* treatment. Appropriate treatment at the earlier stages may restore the pressure and sight.

A treatable condition

Glaucoma is a treatable condition. Since it is a life long problem, periodic visits to the hospitals|specialists are needed. The type of treatment needs to be evaluated for each individual, depending upon the type of glaucoma, profession, medical facilities available, reliability and socio-economic status of the patient. The aim of the treatment is to produce a round-the-clock "normalization" of the eye pressure. Medical treatment which is the first line of treatment in Western countries for chronic simple (or silent) glaucoma, is also practical for 'appropriate' individuals in our country. In the glaucoma clinic of our Centre, a system has been developed whereby a large number of individuals of chronic glaucoma have adequately controlled the condition for 10 to 15 years on medical treatment. With newer drugs, it is possible to reduce the frequency of drugs to twice a day depending on the working schedule of the individuals

For those not suitable for medical treatment, surgery can be undertaken. Modern surgery for glaucoma using the microsurgery technique is safe, but this long term control by surgery is effective only in about 80 per cent of the cases. Even after the surgery some patients will still require continuous treatment.

Individuals of glaucoma have a normal life expectancy and no undue restrictions need to be placed on their daily activities.

The *closed angle* or *narrow angle* glaucoma is more common amongst Indians compared to the Western population. The configuration of 'Indian eyes' is such that it is more pra predisposed to this type of glaucoma. In spite of the fact that patients have symptoms, a majority of them come for treatment very late. The acute state can be best cured by an 'iridectomy' (surgical or laser treatment), after initial control with drugs. Since the attack can affect the other eye it is safe to undertake surgery for the other eye also. Long term 'eye drops' treatment has no role in this type of glaucoma.

If the loss of sight is measured in years, in the case of chronic glaucoma, it happens in hours and days in the case of acute glaucoma. If you have glaucoma, check with your specialist what type of glaucoma you have.

What Yoga can do ?

The relaxed state of the individual may profoundly affect and lower the intra-ocular pressure(I.O.P.). Additional research is needed to study the effects of 'meditation' on eye pressure in normal as well as glaucoma individuals. Some of the 'Asans' may raise the venous pressure within the head and neck region, e.g. 'Shirshasan', which may also raise the pressure of the eye, especially if it is carried out for long periods.

Secondary glaucoma : Whilst chronic (or open angle) and acute (or closed angle) glaucoma are the two most common types of primary glaucoma, there are a variety of eye conditions that may lead to secondary glaucomas—inflammations of eye, injuries to the eye and vascular blockage of the retinal vessels. A few types that are preventable deserve special mention.

Cataract and glaucoma : The two conditions are separate but a cataract may mask the signs of glaucoma. Individuals with cataract ought to have tests for glaucoma. It is a common experience to hear that an individual has been told to wait for cataract surgery because he has some vision, but ultimately realises that the loss is due to glaucoma. On the other hand, if the cataract is allowed to become over-ripe, it may lead to secondary glaucoma. A small number may get glaucoma after cataract extraction.

If you have immature cataracts, check for glaucoma too; and if you have cataract avoid getting them over-ripe.

Some of the "drugs" used to reduce inflammation of the eye may produce a rise of pressure and cataracts if used continuously. One such group of drugs is "Gorticosteroids" (dexamethasone, bethamethasone, hydrocortisone, or prednisolone containing drops or ointments and sometimes tablets). Individuals may be prescribed these drugs for minor complaints in the eye like 'itching' and 'redness', but subsequently without consultation continue using these drops or ointments (for these produce a relief in symptoms) but leave behind serious problems like cataract and glaucoma, even in young children. This is a totally preventable condition. Asthmatics and patients of arthritis on long term oral "corticosteroid" should have investigations, for glaucoma.

Food and Glaucoma : All of you are aware of the recent 'epidemic of dropsy in two villages of Delhi. Another epidemic took place about a decade back in the Ramakrishna Puram area. These were due to the contamination of mustard oil with seeds of "Argemone Mexicana". Besides the swelling of feet, the sight may be seriously affected by glancoma, and toxic effects on the blood carrying vessels of the retina.

Those who are using mustard oil wholly or partly should be aware of the consequences of the contamination. Strong alcoholic drinks many lower eye pressure, but products like beer, may raise eye pressure due to excessive consumption of fluids at astretch.

Congenital glaucoma

Glaucoma can affect the adults, as well as the new borns and children in the first 2 to 3 years. Fortunately this type of glaucoma is rare.

The children with big eyes (parents often take it as a sign of beauty), 'watering' from the eye and 'shying away' from light may be having glaucoma. The glaucoma in this age group is very serious. The conventional surgery is not very effective but a new technique of micro surgery (Trabeculotomy-cum-trabeculectomy) developed at this Centre has given good results over the last five years.

We hope an increasing awareness amongst the community shall help unearth the large number of unsuspected glaucoma cases in the country. There is nothing more tragic than seeing an essentially blind patient being lead into the hospital only to be diagnosed that he has glaucoma. Such a patient either did not have an eye examination, or was using the reading glass without a thorough check-up, or had been told that he had cataract, but in reality he had a coexistent glaucoma.

It is a disease which is treatable with the optimum result of preserving normal vision throughout the patient's life. But once the vision is lost, it is lost for ever, and cannot be restrored.

Early detection and *prevention* are the two golden words which relate to glaucoma. With newer drugs, and other modes of treatment (like laser), advent of 'operating microscope' for surgery, there is a great promise and hope for better treatment of glaucoma.

If you have glaucoma remember

1. Chronic Glaucoma is treatable by medicines/surgery.

2. It is a life long problem and affects both eyes.

3. Treatment can prevent further loss but cannot restore the sight already lost.

4. Use your treatment regularly. If the dosage of one drug interferes with your working schedule, alternative drugs are available.

5. Report for repeated check up.

6. "Acute or Narrow Angle" glaucoma can be cured by surgery. The other eye also needs surgery.

A caution

If you are :

Over 40

Have Diabetes Mellitus

Have a Family History of Glaucoma.

Consult for

1. Full eye check up to exclude glaucoma when you need only reading glasses, or

2. Have a cataract, or

3. Have pain or aches in and around the eyes, or

4. Have H|O halos, or

5. Have pain, or cloudiness of vision, or

6. If children have big eyes. □

(Based on public lecture at All India Institute of Medical Sciences, New Delhi.)

Books

Techniques of Planning

State's Planning in India—Techniques, procedures and management by N. Somasekhara. Himalaya Publishing House. New Delhi, 1984, Pages 332, Rs. 175.

THIS BOOK is the outcome of research supported by Indian Council of Social Science Research to Department of Industrial Management, Indian Institute of Science, Bangalore. Somasekhara undertook the study in 1975 and completed it in 1980. The study covers 16 states and 3 union territories. His focus is on three major aspects (a) planning methods and techniques, (b) procedures and sequences, and (c) organisation and management. An elaborate proforma appended to the book was designed and canvassed. Information was sought on procedure of initiating targets, phasing of the plan, target setting, sectoral allocation, project selection, phasing of the plans, progress monitoring, regional planning, district planning, organisation of planning machinery, adequacy of planning staff etc. Between July, 1976-April, 1977, more than 80 very senior officers in different states and the centre were personally interviewed. Reports, state plans etc. collected during these visits are listed and given in the Appendix to the Bibliography.

Material thus collected is analysed painstakingly and presented in six chapters. Chapter I briefly sketches the evolution of planning techniques at the global level and lists the objectives of the study and elaborates the methodology. Chapter II presents the methods and techniques used at various stages in planning at the state level viz., target setting, project selection, sectoral allocation, district plans, etc. Chapter III gives an account of the procedure and sequences of planning. Chapter IV spotlights the existing planning organisations in states and their composition, functions and role. Chapter V presents a summary and conclusions. State profiles are also given.

State planning assumes importance in view of current emphasis on decentralisation of planning. How well are the states equipped? Let us first take organisation of planning machinery and management. Out of 16 states surveyed, 15 had established state planning boards which are specialised planning agencies. Staff strength varies from state to state. In 6 states, 50 per cent of members were experts. Secretary, Planning Department is Member-Secretary, in a majority of states. Planning Boards meet 5 to 6 times a year. Their main functions are to formulate plan objectives, individual projects, advise on plan priorities, evaluate and improve technical aspects of planning. Only a few states had divisions for district and regional planning. Notably Andhra Pradesh leads in regional planning exercises and has a unit for regional planning. District planning machinery did exist in most States but these were deliberative and advisory in character. District planning boards/committees acted more as plan implementing agencies rather than plan formulating agencies. In Project planning the Planning Department and technical departments at State level were all powerful. As soon as they hear from the Central Planning Commission, annual plan exercises commence in September and budgets voted for by March next year. The Five Year Plan process starts two years before the plan implementation commences.

In methods and techniques followed at state level several states laid down targets with reference to per capita income employment creation etc. Sectoral allocations are then worked out and schemes in each sector allotted to sub-units at region or district level. Modern techniques like input-output ratios have not been applied universally, only 7 States following it. Very few States have viable projects on shelves for contingency purpose. Project planning and selection is not systematic. Cost benefit analysis was adopted only in a few states. Regional plans, if any, were delineated on economic, administrative or non-administrative grounds and not in the manner of spatial planning. On the whole, the methods followed and techniques used were deficient. The author pleads for greater expertise in state planning organisations. Periodic in-service courses be made mandatory for the state planning personnel. On the whole, the highest investment in the planning machinery was 0.01 per cent for the state domestic product and the lowest was 0.002 per cent. This needs to be stepped up.

The author concludes, "although planning functions appear to have been decentralised to the state level, this is only apparent and not real. Even though some organisational framework for planning seems to exist in all the states, in general this framework is not very effective." Planning continues to be a mere budget exercise.

Somasekhara needs to be congratulated for preparing such a useful work which all those engaged in planning at Central and State level should read. The ICSSR also deserves credit for assisting such a useful piece of research.

S. M. Shah

Role of Administration in Agriculture

Bureaucracy and the New Agricultural Strategy By Kuldeep Mathur. Concept Publishing Company, New Delhi. Pages 163, Price Rs. 60.

THE NEW agricultural strategy that brought about the Green Revolution essentially is based on the packages approach. This approach consists of new high yielding varieties, fertilizers, pesticides, appropriate water supply for irrigation and the necessary mechanical equipment. The core of the package is the high yielding variety seed which requires proper

dose of fertiliser, water and pesticides in order to produce its full potential. Thus, for the package to work fully, not only have the inputs to be provided, but have to be utilised in appropriate quantum and at the right time. Consequently, the package expects the organisational system at the field level for providing appropriate quantities of input at proper time available to the cultivator. With the acceptance of the new agricultural strategy as a means of increasing agricultural production, a vast expansion of administrative organisations has taken place.

Undoubtedly, the Green Revolution was a remarkable technological achievement. It was also an outstanding administrative achievement as the Government responded to its administrative needs. New technical departments or semi-autonomous organisations concerned with marketing, warehousing, minor irrigation etc. were established. Credit brought in its own agencies. Each of these organisations were required to perform its task at the district level and below. Administratively, this has resulted in the emergence of several parallel hierarchies at the local level. While one agency may promote the use of an output, it is only another that will supply it, and yet another that will set the targets of consumption. With targets being established for each of the tasks to be performed, coordination arose as the major problem in implementation. It goes to the credit of the bureaucracy that they met the challenge successfully.

Dr. Mathur has presented a detailed analysis of the role of the bureaucracy in the context of agricultural development in India. In the first part of the study, he has dealt with the national administrative framework, and the national level policies towards rural development. The second part is devoted to the presentation of empirical data derived from a micro-level evaluation of the Green Revolution in Karnal District, Haryana. Dr. Mathur finds that the role of the bureaucracy is tied to the groups that are propelling a particular type of development. According to him policies and their implementation depend ultimately upon the dynamic interaction of the social and political processes involved; it is unrealistic to assume that one component alone—the bureaucracy— is responsible for the output in development.

—S. N. Khanna

Scientific Crop Combinations

Crop Combinations in India—By Majid [illegible]. Concept Publishing Company, New Delhi-7 Pages 206. Rs. 100.

THE HIGH-YIELDING varieties of foodgrains and other innovations under the Package Programme —popularly known as the Green Revolution have considerably increased the production and productivity of farms and the income of farmers in the irrigated areas of the country. Many agriculturists have shifted from subsistence to market-oriented farming. But the Programme has not spread to all areas due to the lack of infrastructural facilities, and to all farmers due to the lack of resources among small farmers. It has also not made an impact on the production of coarse grains, pulses and oil seeds—in fact, the increase in cereals has been to some extent, at the cost of these crops. Even in the case of major cereals like rice and wheat the increase in productivity has not reached the levels of many other countries. For example, the average per hectare yield of rice in India is only 1700 Kg. as compared to 5200 Kg. in South Korea & 4500 Kg. in Japan. The intensive cultivation, involving high doses of chemical fertilisers and insecticides and commercialised new cropping pattern, is impoverising soil fertility. The traditional systems of mutual aid in villages are disappearing. The disparities between States in agricultural growth have been accentuated. The disparities in income, wealth and consumption among the rural classes have also been widened, thus shaping the 'red face' of Green Revolution and threatening rural peace.

Though modestly titled as "Crop Combinations" this book comprehensively deals with the above and other aspects of Indian agriculture, both under pre and post-Green Revolution conditions. A lay reader may be surprised to know that even before the GR, farmers in six districts were raising nine to ten crops a year. Among the topics discussed in the book, the most important is the package of scientific crop combinations for the various regions, from Kashmir to Kerala, suggested by the author. The chief merit of the book is that it takes the district, and not an unmanageable bigger area, as the unit for study and statistics, thus enhancing its practical utility. There are many relevant maps and tables, but, unfortunately, the maps are too small to make an instant impact.

P. Srinivasan

Science & Technology Notes

Bricks from waste

THE Central Building Research Institute, Roorkee, has developed a process for manufacturing good-quality building bricks from inferior soils using flyash, a waste thrown up by thermal power plants which poses an environmental problem. The CBRI process has been adopted in big way brick manufacturers in Andhra Pradesh, who have turned out over 10 million bricks. The process consists of incorporating 40 per cent fly-ash and a small amount of commonal salt solution with blended sand, red murrum and black clay soil which are locally available.

The bricks, so manufactured, conform to the Indian Standard specification. They are three times stronger than the traditional bricks. The process reduces consumption of coal by two to five tonnes per lakh bricks during firing. □

(CSIR)

Hops cultivation

THE Regional Research Laboratory, (RRL) Jammu, has evolved four aroma varieties of hops which are used for making beer. These varieties have been approved by the Brewery Association and are being released for commercial cultivation in a phased manner.

Hops were introduced in Kashmir Valley by some foreigners before Independence. RRL scientists have been able to develop the commercial cultivation of this crop in the valley and some parts of Himachal Pradesh. □

(CSIR)

Low cost beverage

The Central Food Technological Research Institute (CFTRI), Mysore has developed a low-cost beverage from malted millets. The product dissolves easily in milk.

The process consists of preparing a syrup with millet and barley malt in equal proportion. Milk powder and essence are added to the syrup, which is processed in a vacuum shelf drier.

The product is expected to cost less than the commonly available food beverages. □

Improved performance by industrial sector

IN THE FIRST EIGHT MONTHS of 1983-84, the index of industrial production in the country registered a growth of 4.2 per cent over the same period of 1982-83. With perceptible improvement in the more recent months, the rate of growth of industrial production is likely to be about 4.5 per cent for the year 1983-84.

The performance of the manufacturing sector was better in 1983-84 with a growth rate of 3.4 per cent for the period April-November compared with 2.5 per cent in the previous year. A major factor for the substantial improvement in the growth of output in the manufacturing sector in 1983-84 is the higher level of production in textile and engineering industry.

The picking up in the engineering industry was evident in the production performance of many important industries. Industries which have recorded positive growth in 1983-84, reversing the declining trend of 1982-83, include tractors, stationary, diesel engines, railway wagons, bicycles, sewing machines, electric motors and power transformers. □

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Record foodgrain production

DURING 1983-84 aggregate foodgrain production is likely to be over 15 million tonnes higher than that of last year. It will be around 144 million tonnes against 128.4 million tonnes last year.

For the first time this year, rice production is expected to break the barrier of 53/54 million tonnes by a margin of 3 million tonnes. The major increase in rice production has come from the non-traditional rice growing States of Punjab, Haryana, Western Uttar Pradesh and some parts of Rajasthan. Total oil-seeds production is similarly expected to reach a new peak of 12.5 million tonnes.

The distribution of quality seeds stepped up substantially from 29.81 lakh quintals in 1981-82 to 42.16 lakh quintals in 1982-83 and will touch 57 lakh quintals in 1983-84.

The fertiliser consumption during 1983-84 will go well above the plan target of 72 lakh tonnes due to substantial reduction in the price of fertilisers, expansion of distribution by opening over 20,000 additional outlets in a single year and favourable weather conditions

The cumulative utilisation of irrigation potential improved from 92.1 per cent in 1981-82 to 92.5 per cent in 1982-83. In absolute terms, utilisation increased from 56.17 million hectares in 1981-82 to 58.55 million hectares in 1982-83 and the target for 1983-84 is set at 61.07 million hectares. □

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New approach to Indian planning

NEXT ISSUE

The concept well-being

20-Point programme review

OVER 25 LAKH people belonging to Scheduled Castes and Scheduled Tribe families have been given economic assistance under the 20-Point Programme during 1983-84.

A review of the programme's achievements upto the end of January 1984 by the Planning Commission reveals that 80.4 per cent of the target was achieved in providing economic assistance to Scheduled Tribes. About 6.14 lakh Scheduled Tribe families were given economic assistance during the year.

Himachal Pradesh and Manipur had made nearly 162 per cent progress. Two other States, Bihar and Uttar Pradesh, and the Union Territories as a whole had also exceeded their targets. Madhya Pradesh and Rajasthan had achieved over 90 per cent of their targets and another six States had made between 74 to 81 per cent progress.

More than 39,800 biogas plants have been set up during the period which is nearly 80 per cent of the target. This does not include the biogas units set up by the Khadi and Village Industries Commission. Five States, namely Himachal Pradesh, Karnataka, Bihar, Tamil Nadu and Rajasthan have crossed their goal. Himachal Pradesh was leading them all with 209.7 per cent achievement.

Achievement in opening of new Primary Health Centres was 83 percent. During this period 339 PHCs were opened against the annual target of 406.

In three fields, viz. distribution of house sites to the houseless, tree plantation and opening of new ICDS blocks, country has fully achieved the annual targets for the year 1983-84. However, in these areas also some States have exceeded their targets while some others have lagged behind.

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For new subscriptions, renewals, enquiries please contact : The Business Manager, Publications Division, Patiala House, New Delhi-110001.

Our Contributors

Sunderlal Bahuguna—Head, Chipko Information Centre, Nawjeevan Ashram, Silyara, Tehri-Garhwal (U.P.) ; **Dr. V.K.R.V. Rao**—National Professor, Bangalore ; **G. V. Joshi and Paul A. Rego**—Lecturers in Economics, Mangalore University, Mangalore; **S.K. Sharma**—Lecturer in Economics, Government Degree College, Unchatar, Rai Barelli (U.P.) ; **Y. V. Rao**—Research Associate, National Institute of Rural Development, Rajendra Nagar, Hyderabad ; **Saroj Saraf**—Journalist, Jammu (J&K) ; **Padmalochan Behera**—Research Scholar, Jawaherlal Nehru University, New Delhi ; **A. S. Rana**—Lecturer, Government College, Jhajjhar, Rohtak (Haryana) ; **J. R. Meena**—Freelance Journalist, B-26, Geetanjali Enclave, New Delhi ; and **Chandrakant Bhatt**—Dy. Director (Information), Sachivalaya, Ahmedabad.

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What price this hill development?

Sunderlal Bahuguna

Mindless cutting of forests and destructive methods of quarrying have caused not only irreparable damage to the hills but also upset the life of the local people. What after all do the forests bear? Soil, water and pure air that are the very basis of sustenance. The development strategy in the hills require a close coordination between the national needs and local aspirations, says the author.

HILL DEVELOPMENT has become a matter of great concern today and is being talked about in remote huts in hills, in the air-conditioned rooms of multi-storeyed Yojana Bhavan and in States Secretariats. Himalaya's strategic situation and its being the birthplace of life-giving rivers has given it national and international importance. With the increase in the national and international importance of Himalayas, the neglect of the interests and aspirations of the local people has also increased. As a result of this the cold icy mountains have turned into mountains of warm discontent.

The traders of development and those possessing bookish knowledge suggest new prescriptions to the planners and experiments on these begin. The examples are the development projects launched through the universities of Hill areas. I could see one such project in a collage of Jammu University at Bhadrwah. There was a signboard depicting the number of fast growing tree species planted under this project, but the plants had gone in the stomachs of cows. The empty pits were certainly there as a proof of the labour put in digging the pits by the students and the teachers. These empty pits were waiting for the next planting season to come.

The main contradictions of hill development are:

There is lack of coordination between the aspirations of the local people and national interests.

The standard of living of the planners and those who implement the plans is totally different from those for whom the plans are made.

The aspirations of the local people are always (a) to be connected with their soil and (b) lead a comfortable life out of it. In the context of hills they want to get rid of the life of drudgery. They want easy availability of basic necessities of life in place of scarcity. When the era of quick and intensive development of Himalayan region began two decades ago, top priority was given to connect these areas with the plains by constructing roads. After the construction of main roads was completed, construction of feeder and link roads was started. This continues till today and is likely to continue till each village is linked with a motor road.

The roads of discontent

Occurrence of landslides and soil-erosion is on mass scale. According to Dr. K. S. Wadia, the renowned scholar of Himalayan geology and environmental science, "construction of 44,000 km motor roads in Himalayas have generated 2,650 million cubic meters of debris. Each year every kilometre of these roads produces 550 cubic metres of debris by landslides and rockfalls, so that every year about 24 million cubic metres sediments slide down the slopes killing vegetation and choking mountain streams". The rate of soil erosion is 2000 times more in areas with roads as compared to a forested area.

Hill roads are the examples of that cartoon which depicts a pigmy running with a huge tree under his arm. When asked where he was going, he replied, "to find some safe place to hide this tree, because the cement road is following me." With the construction of the roads a continuous process of forest destruction

is encouraged through timber trade and illicit felling. The hill slopes have been stripped off due to dragging and rolling of huge logs. Saw mills have reached inside the remote dense forests, as in Chenab Valley in J&K, Fold in Uttarkashi and in the Darjeeling hills of West Bengal.

Mining has begun, Doon Valley, Jhiroli (Almora) and Chandhak (Pithoragarh) are the examples of the irreparable losses occurring due to the destructive system of quarrying.

Village economy shattered

End of subsistence village economy and its replacement with money and market economy. Earlier where a few villages existed to supply salt, oil, jaggery and cloth, now small bazars with city provision stores have developed. The barter economy has been replaced with the money economy, in which the villagers lose both ways as seller and purchaser. The villagers are now compelled to sell their valuable products like milk, ghee etc. export man-power and adopt unsocial means to earn money to satisfy their ever increasing demands. These village markets have become the centres of liquor and gambling. Healthy men leave village in search of job and on their annual leave they spend lavishly. The life of hill women becomes more miserable.

The other development programme in the hills was the opening of schools and colleges. This has brought with it evils of present day education which alienates youth from their culture and life style and produces unemployment. The educated unemployed have adopted professions like contractorship, in which they hope to earn by least effort. This has encouraged corruption and over exploitation of the natural resources.

Agriculture and animal husbandry have not improved. In a subsistence economy as in the hills, the agricultural products cannot be sold. The holdings are very small. Women play most prominent role in agriculture and animal husbandry. The development programmes have not reached the women.

Dams for destruction

Construction of dams along hill rivers to meet the increasing demand of irrigation water and power in the plains, has been taken up and a number of such projects have been proposed for future. The number of such projects over the Ganga and its tributaries in the hills alone is 22. One of such completed projects is Pong dam in Himachal Pradesh. Tehri Dam over Bhagirathi in Uttar Pradesh is under construction. For hills these projects are programmes of destruction.

These dams will flood the fertile flat land of the valleys. The problems of rehabilitation of the displaced people have been created. The Pong Dam oustees, in spite of getting land for rehabilitation in Rajasthan, could not settle there. Not even four villages out of 92 affected by the proposed huge Tehri Dam have yet been fully settled. The human rehabilitation creates social, psychological and cultural problems.

The greatest tragedy of hill development is the conversion of natural forests into timber mines to feed the forest-based industries. This happened because the sources of raw material to forest-based industries had been exhausted as all the land in the plains was put over to agriculture. The objective of fourth, fifth and sixth Five Year Plans in forestry sector has been to bring more areas of hill forests under industrial plantations. For this purpose valuable oak forests, as in Ringali (U.P.) and Thaitukhor Mandi (H.P.) have been converted into coniferous deodar forests. In Eastern Himalayas dense mixed forests were felled to plant dhupi (in Darjeeling). In North Kanara district of Karnataka in the Western Ghats, forests were cleared to plant tea and eucalyptus, even though the climate of that region does not favour eucalyptus.

The gaps

The exploitation of the undeveloped areas to meet the ever increasing demands of the affluent societies is a global phenomenon. This is evident from the development programmes of the hill areas of which construction of roads and high dams, mining, and the management of the forests are the glaring examples. The hill areas, once known for their enchanting scenic beauty, have now become deserted battlefields.

The main reason of this is the big gap between the thinking and ideals of the planners, policy makers and the hill people. This distance is not only physical, but there is also a big distance between the minds and the hearts of both. This distance was highlighted in a slogan raised by the local people, when the construction of Tehri dam was started under the guard of armed police in the face of people's resistance. The slogan was—you love electricity, we love soil. Similarly during the *chipko movement*, the traditional slogan of forestry management was: What do the forests bear? Resin, timber and foreign exchange. This was challenged by the village women of Henwal Ghati by saying what do the forests bear? Soil, water and pure air. Soil, water and pure air, are the basis of sustenance. These sentiments show the distance between the thoughts and ideals of both.

Back to traditions

A number of problems have cropped up on account of the traditional definition of 'Development' as affluence. In the so-called developed societies, modern poverty has emerged in the shape of increased oil prices, permanence of pollution, higher bank rates, and fall in the purchasing capacity of salaried persons.

This development has made life impossible without money. So we shall have to adopt the traditional life style of the commoners, in which everybody has an opportunity to survive. There are no economic disparities. In such a system the primary use of the natural resources is to meet the basic needs—oxygen, water, food, shelter and clothing—of the local population from their surroundings. For this purpose we shall have to rely on the customs, traditions and wisdom gained from the experiences of the generations of the common people, rather than big research volumes and reports prepared after long intellectual exercises.

Areas of coordination

We shall have to discover the areas of coordination between the national needs and the local aspirations. The primary national interest in the context of hill

areas and specially the Himalayas is strengthening these areas from the point of view of national defence. The experience is that a self-sufficient and contented population on the borders is the strongest defence line. More than this they should have an unflinching faith in their cultural radition. The people of Monpa community in Tawang area set an example of this in 1962.

The second national need is of the maximum utilization of the resources of this area for the development of the entire country. Now comes the plan for the utilization of forest, water and mineral wealth of the hill areas.

We have inherited a colonial forest policy which has made the forest dwellers aliens in their own land and finally the enemies of the forests. Our natural forests have disappeared and these are now the timber mines and the stores houses of industrial raw material. The forest area is gradually shrinking and the whole country is being affected by the devastating floods and accelerated soil-erosion. This good sense has come on the eve of Seventh Plan. The importance of the protection of environment has been recognised and the United Nations slogan "Development without destruction" is on the tongue of everybody.

The benefactors

The scientific truth should be accepted that the main role of the Himalayan forests is to maintain the balance in the climatic conditions of the whole of Northern India, and the fertility of the Gangetic plain. These are the storehouses of water and the factories of soil manufacture. The findings of meteorologists and glaciologists *regarding the increase in temperature and recession of glaciers cannot be ignored.* The latest position of Himalayan forests has been clearly depicted by satellite imagery.

According to the studies made by Dr. J. S. Singh and Dr. S. P. Singh of Kumaon University, there is only 31 per cent forest area in the eight hill districts of U.P. Out of which forests with density of more than 60 per cent are only 4.8 per cent. Now where do we stand in the context of national policy of having at least 60 per cent land area under forests in the hills?

In view of its national and local importance, conservation and augmentation of forests should get the top priority in the planning for the development of the hills. Clear-felling of forests and extraction of resin for comercial purpose should be immediately stopped and only such tree species should be planted and promoted which contribute to soil and water conservation and provide shade.

Forest and farm ratio

Though the land-man ratio in the hills appears to be very favourable due to large areas covered by the hills and small population, the density of population in the hills is highest if taking into consideration the cultivable land only. Encroachment of cultivation in the steep and unproductive slopes covered by forest and progressive reduction in the Jhuming cycle are evidence of the heavy population pressure on land in the hills.

Agriculture cannot be separated from the forest. One unit of cultivated area requires seven units of forest area to sustain agriculture. In the context of Western Ghats, it was estimated about 50 years back that one acre of plantation crop, required 9 acres of forest land to provide required shade, green manure and moisture to the soil. Accordingly, plantations of aracnut, cardamam etc. had been raised by providing adequate forest land (Betta land) in this proportion.

In other areas, commercialisation of forests has created a conflict between the forest and agriculture base hill communities. The objective of land-use planning should, therefore, be to promote farming of such trees which provide food, fodder, fuel wood, green manure and fibre so that the relationship of conflict between the people and the forest could be changed into goodwill and complementality. This can be one of the practical steps in changing from shifting cultivation to settled agriculture. For this purpose, priority should be given to the plantation of such trees which are of direct use to the people for their own food and fodder for their cattle.

Pasture development

Next to farm forestry, pasture development is another area which deserves emphasis. In high altitude areas where climatic conditions do not favour tree growth, extensive summer pastures have given rise to sheep and cattle rearing. There is primarily an animal based economy as they provide, food, wool, milk and also means of transportation. In the opinion of the people inhabiting the upper reaches of Byans and *Darma valleys on the tri-junction of India,* China and Nepal border the best development plan during last 20 years has been the cross breeding of yak and cow to produce draught stock capable of carrying heavier loads. They also prefer cross breeding of donkeys and mules for the same reason. These animals provide more employment and income as a means of transport.

Similarly in upper reaches of Himachal Pradesh and Uttarkshi district of UP sheep rearing has been a profitable occupation but the main problem is progressive depletion of winter pastures in the foothills The pastures of Terai and Bhabar have been shrinking due to expansion of agriculture there. Cultivation of such grass should be promoted in these areas and could be preserved as dry fodder for winters.

There is more serious problem of fodder in areas of permanent settlement between 1000 and 2000 metres above sea level. This is the zone which is more densely populated but the predominance of monoculture pine forest has resulted in acute shortage of fodder for the cattle.

The only way to control open grazing in forest lands in this zone is to popularise plantation of nutritious fodder trees on a big scale. The people of Bhatiyat tehsil of Chamba district in H.P. have gone to the extent of uprooting the saplings of pine and planting Bhimal, Bakarin and Tan in their place. So far plantation of trees is concentrated in only barren

and waste lands. It should be extended to all the areas including those covered by reserved forests. The mono-culture conifer forests should be converted into mixed forests. This is a more practical way of maintaining a healthy environment and also of protecting the forests from fire etc.

Source of fuel wood

The third priority should go to fuel wood production. For this purpose climbers and bushes which regenerate forestry after cutting need be planted along-with trees. Hatab was one such species which grew abundantly in Kashmir but it has now vanished as it was mistaken for a weed.

It is often held that availability of fuel wood would ward off the energy crisis. But in the context of hills, the real source of energy are the human beings and animals themselves. Therefore, conservation of the energy source through the plantation of nutritious food and fodder trees is important.

The forests are also important sources of green and compost manure. The use of chemical fertilizers has not been successful in the hills due to the kind of soil there and lack of irrigation facilities. Chemical fertilizers have instead proved harmful. The people, therefore, depend solely on organic manure composed of leaves and cattle dung. The species which are considered useless weeds from the stand-point of commercial forestry are the ones which contribute maximum to compost manure.

Fibre for industries

The next important species are those which produce fibre for the small and household industries based on spinning, weaving and production of ropes, fibre etc. In this connection it may be argued that the priorities outlined above do not take into consideration the requirement of raw material for the forest based industries. The point that need to be emphasised and understood is that there is no place for such industries in the hills which are based on mass exploitation and extraction of resources.

If industries are to be established at all they should be based on the processing of forest produce such as flowers, fruits, leaves, deadwood etc. and not the forest itself. Walnut, mulberry and wild khumani trees produce raw material for industries. The padan tree which produces nutritious food for honey bees during the lean winter season is also another example of such trees. There cannot be any plan more devastating than the one which proposes industries based on the forests and trees themselves. Previous Five Year Plans encouraged saw mill as a forest based industry in the hills, as a result of which there was a flood of saw mills in the entire Himalayan region from Kashmir to Kohima. These are causing havoc.

Abode of plenty

Hill forests are undoubtedly a—national resource not in the form of wood but as the preserver of soil and regulator of water flow in the rivers. Only such trees should therefore be promoted in the hills which are capable of producing more bio-mass. The bio-mass output from chir forest is only 199 tonnes hectare which is negligible compared to the 786.6 tonnes per hectare bio-mass output of mixed oak forest.

Connected with this is the problem of controlling floods by regulating the flow of water in the rivers. The sources of principal rivers lie in the great Himalayan glaciers but most affluents which actually cause flood during rains originate in the forest areas of middle Himalayas. The glaciers of Pindari and Gomukh in Central Himalaya are retreating by 31 and 18 metres respectively every year due to gradual increase in atmospheric temperature which is direct result of the depleting forest cover. Water flow ratio in these rivers fluctuates from 1 to 60 during dry and rainy season whereas this ratio in Bhutan, where sufficien forest cover is still available, is only 1 to 7. The impact of this fluctuation is well-known in the shape of dwindling reservoirs and frequent breakdown in the supply of electricity.

Hydroelectricity from the rivers offers the biggest promise as a future national resource but in order to conserve and augment this resource, the catchment areas of the Himalayan rivers need to be clothed with vegetation. The same applies to the mountains of Arawal, Satpura, Vindhyachal and Eastern and Western Ghats. The hydro-electric projects should be based not on blocking the flow of the rivers and creating huge reservoirs but on the currents of the flowing water. The hydrologists have come to the conclusion that for the preservation of environment and for maintaining the purifying capacity of the rivers, it is not advantageous to tamper with the natural flow of water.

The need for pure water is increasing with the increase in population and industrialisation. This has become one of the main concerns for several industrialised nations. The scientists in the United States have estimated that availability of pure water in their county will be only for 20 to 30 minutes a day by the year 2000. yet there is no technical process which could purify water in such a short time.

Conservation of water sources

Conservation of water sources is important from the local development point of view. Most villages have problems of drinking water. Drinking water schemes are not successful because the sources of water dry up after some time. It is, therefore, necessary to maintain the flow of water in springs by providing vegetative cover. Till now the use of water resources has been restricted to the production of hydro-electricity through big projects. Local needs of electricity are also being met out of the big projects. This is more prevalent in Himachal Pradesh.

The central grid system on the one hand increases the management cost and transmission losses, and on the other it takes longer to restore the supply if there is a breakdown. Multi-purpose community hydro-electric power houses along flowing rivulets should be encouraged. These may provide power for paddy-dehusking, flour-grinding, oil-extraction, lighting and keeping the houses warm. Where more power may be generated, it should be utilised to lift water for the

(Contd. on Page No. 28)

New approach to Indian planning-I

Dr. V.K.R.V. Rao

One of the primary objectives of Indian Planning must be the creation of an integrated Indian society where the distance between high and low is within the limits of psychological tolerance. The high should be within the reach of the low with self-effort accompanied by appropriate training in skills and equal opportunities of access to assets, technology and credit, the author adds.

THERE IS NO NEED for me to dwell on the country's achievements in economic development after the creation of the Planning Commission and the adoption of plan programmes and of plan outlays for financing them. The manifold increase in the output of wheat and of crude oil are the two conspicuous success stories in India's post-independent history.

The output of foodgrains has nearly trebled. India now ranks as one of the world's major industrial nations in terms of the magnitude of its industrial output, its diversification, import substitution, and production of capital and intermediate goods. In the human factor area, The increase in its stock of scientific and technical personnel, its enrolment of students at all levels, its medical and allied personnel and supply of health and other social services constitute a record of substantial achievement.

There has been a significant increase in transport facilities of all kinds, including railways, shipping, road and air and communication facilities including posts, telegraphs and telephones. India has also an honourable place in the realm of research and development notably in nuclear and space research and technology

Silver Jubilee lectures series delivered in the Institute of Economic Growth, Delhi University, Delhi, recently.

Net national product has recorded an annual growth rate of 3.5 per cent, with agriculture averaging at 2.5 per cent and industry at 5.5 per cent. Per capita income has increased at about 1 per cent a year and expectation of life at birth has increased nearly 70 per cent to reach 51 years for males and 50 years for females. In absolute terms, the achievement is quite impressive, while in comparison with its pre-independence history, the record is even more impressive. What then is wrong with Indian Planning, and why do we need new directions ?

Dissatisfaction with achievements

There are many reasons behind the reasons why there is popular dissatisfaction with our developmental achievements. I shall briefly indicate them below and in summary fashion :

Multiple and non-integrated targets.

Mistakes of omission and commission in the listing of priorities and targets.

Non-fulfilment of targets, except in the case of the First Five Year Plan.

Inadequate rate of economic growth, lower than in many of the other developing countries

Excessive attention to financial targets to the exclusion of physical targets.

Inflationary financing with its resulting sharp rise in prices and in cost of living.

Assumption of price stability during plan periods and absence of plan policies for its realisation.

Inadequate attention to quality as against volume in the output of goods and services targeted or achieved as a result of planned development.

Increase in unemployment of both educated persons and unskilled workers.

[illegible] of family planning programmes to bring about a reduction in the rate of population growth.

Neglect of ecological and environmental factors in the planning of development, resulting in deforestation, soil erosion, increased exposure to floods, water logging and salinity in land, and destruction of flora and fauna which had a positive role in maintaining balance between nature and man.

Widening distance between urban and rural areas and increasing rural-urban dichotomy.

Steady drift of population from the rural to the urban areas, involving both unemployed unskilled labour and skilled and educated rural workers, leaving the rural population in a self-sustaining poverty rap and also increasing urban poverty with its increasing slum-dwellers and unskilled unemployed.

Increase in the absolute number of persons below the poverty line and near stability in their percentage of the total population.

Increase in the incidence of vulgar and ostentatious consumerist life styles and spread of Five Star Hotel culture.

Inadequate project preparation and tardiness in implementation, with increasing time and cost over-runs and diminished returns from investment.

Continuing dimension of under-utilisation of capacity in both agriculture and industry.

Continuing failure of public enterprises to generate profits or achieve cost-reduction or improve quality.

Widening incidence of tax evasion, bribery, corruption and black money with a consequential development of a parallel economy in the country.

ailure of exports to increase sufficiently to prevent increasing dependence on foreign aid, non-resident Indian remittances, and commercial loans for securing the foreign exchange needed to finance imports and debt-service payments.

ncreasing departure from the industrial culture needed for accelerated development such as discipline, work-ethic and credit ethic.

ack of modernisation and competitiveness in spite of expenditure incurred on R & D and the large numbers of scientific and technological personnel we have in the country.

New directions

can extend the list further, but it is long enough fficiently massive to justify the prevalent distment with our current style of planned devet and set both planners and the people to seek ections in the planning process. No one wants to do away with planning or go in for an un-adulterated laissez-faire in economic affairs. But every one wants some change in the right direction. Some are stressing economic growth, while others emphasise social justice; some are for liberalisation of governmental controls and regulations, with an increasing role for private enterprise and the private sector, while others would urge a tightening of controls and a larger role for the public sector.

A distinguished ex-civil servant and economic administrator has given public expression to his view, I quote : "We can and should plan for full employment and the Seventh Plan as a whole should have a new orientation in order to maximise the capacity for removing mass poverty through full employment". And he has outlined a five-point strategy for its achievement, which is not dis-similar from what others have been saying on the subject including Planning Commission documents, but what is not indicated is the extent to which this will maximise productive employment, let alone secure full employment.

An eminent economist, who is currently also a member of the Planning Commission, has stated in a public interview to a national press agency on March 4 of this year that in the Seventh Plan highest priority should be given to development of infrastructural sectors to secure uninterrupted growth in agriculture and industry. After listing some sectors in this regard, the press agency reports him as saying that a meeting of the Commission might be called within a month to concretise new proposals in regard to infrastructure and other aspects of the Seventh Plan 'so that' *a more result oriented plan carrying greater credibility with the people could be formulated*' (*italics mine*).

Economic survey

The Economic Survey for 1983-84 released a few days prior to the presentation of the Union budget for 1984-85 calls for full utilisation of the large capacities created in many areas "through relatively small investments in modernisation and upgradation of existing plants" and "from small projects in many areas, which do not tie up very large volume of resources and may be more efficient and more suited to local planning and implementation capacity". The Survey asks for the full exploitation of these opportunities in the Seventh plan period if we are to make maximum use of the available resources. In somewhat of an understatement it adds: "*More generally, the degree of discipline in plan formulation and implementation needs to be greatly improved*" (italics mine). The survey also makes a number of concrete suggestions for plan improvement some of which I give below :

A more effective way of import-saving and foreign exchange saving is to restructure investment away from sectors which are heavily import-intensive and to reduce the growth of consumption in areas where we are dependent on imports.

Improved profitability in the public sector and stepping up of the level of investment in areas like irrigation and power.

- Need for utmost vigilence on expenditure and continuous concerted efforts to increase investment and improve productivity in critical areas.
- Measures for increasing productivity and investment and curbing non-essential consumption to be high on the agenda for 1984-85 and beyond.
- Adjustments in credit re-distributive policy to include reduction in interest on advances for fertilizer, retail trade, procurement of pulses and oil seeds, farmers, professionals, and self-employed belonging to Scheduled Castes and Tribes and professional and self-employed women.
- Strengthen the flow of credit to the agricultural sector, particularly small and marginal farmers.
- Pay close attention to the functioning of infrastructure sector and the performance of public sector.
- Need for continued efforts at modernisation and quality consciousness to deal with certain weaknesses in the industrial structure.
- Critical importance of improved export performance in the years ahead.

The Economic Survey is an anonymous document which is the work of a government department. Its suggestions for the needed approach to the Seventh Plan bear evidence of knowledge of the deficiencies in the current planning process, at least as much as members of the Planning Commission and vocal non-official spokesmen on planning. Without becoming frivolous, I would suggest that the Survey should be compulsory reading for the Union Council of Ministers, who are the ultimate decision making body in matters relating to planned development. I presume it is already in the reading list of members of the Planning Commission and the Economic Advisory Council to the Prime Minister.

It will be seen therefore that there is not much that an outsider like myself can suggest by way of new directions to Indian Planning, which is not already contained in the many reports of the Planning Commission or the statements of its members or of concerned Ministers. Nevertheless, having been an interested observer of the Indian economy for now more than fifty years and also worked for some time as a temporary civil servant (on deputation from the University) a member of the Planning Commission and of the Union Cabinet, I would like to place before you some suggestions for a new approach to Indian Planning, even though the suggestions may be neither new nor more than repetitive of what others, better equipped than myself, have already been saying.

Suggestions for new approach

I should like to begin with the objectives behind the planning effort; and can do no better than quote from the Report of the First Five Year Plan, which was published more that 32 years ago. I quote : "It is no longer possible to think of development as a process merely of increasing the supplies of material goods; it is necessary to ensure that simultaneously a steady advance is made towards the realisation of wider objectives such as *full employment and the removal of economic inequalities.* (italics mine). None of these objectives can be pursued to the exclusion of others; a plan for development places balanced emphasis on all these. Development, thus conceived, is a process which calls for effort and sacrifice on the part of the entire body of citizens. For such effort and sacrifice to come forth, psychological conditions have to be created which provide an incentive to all to give of their best."

I shall take off from there. The objectives of planned development should be such as to create the psychological conditions needed for evoking the necessary effort and sacrifice on the part of the entire body of citizens. Let me take it down to the Sixth Plan which is still in operation and to the Seventh Plan which is yet to be formulated.

The Sixth Plan places the removal of poverty as its foremost objective and listed a number of allied and other objectives. They also listed major areas of effort required to fulfil these objectives. These also need to be mentioned in this lecture as they form the old approach to planning, which, with some additions of my own, I am re-christening as the needed new approach to Indian Planning. These are :

- a significant step-up in the rate of growth of the economy;
- strengthening of impulses of modernisation;
- a progressive reduction in the incidence of poverty and unemployment;
- a speedy development of indigenous sources of energy;
- improving the quality of life of the people in general with special reference to the economically and socially handicapped population;
- strengthening the re-distributive bias of public policies and services in favour of the poor;
- a progressive reduction in regional inequalities;
- promoting policies for controlling the growth of population;
- promoting harmony between the short and long term goals of development; and
- promoting the active involvement of all sections of the population in the process of development.

The major areas of effort required to fulfil these objectives have also been spelt out in the Sixth Plan. These include conservation of energy and efficiency in energy use, a minimum needs programme whose coverage is so designed as to ensure that all parts of the country attain within a prescribed period nationally accepted standards, reduction in inequalities in income and wealth, reduction in regional inequalities to cover the pace of development and the diffusion of technological benefits, voluntary acceptance of the

small family norm for reducing population growth, protection and improvement of ecological and environmental assets for harmonising the long term with short term goals of development, and appropriate education, communication and institutional strategies for securing peoples' involvement in the process of development.

The familiar resemblance between the objectives mentioned in the First Plan and the Sixth Plan should be clear for any one to see, though naturally being later in time, the Sixth Plan spells out in more detail what was implicit in the First Plan. That is why I have been allergic to all the talks by eminent intellectuals of alternative approaches to Indian planning, as if the entire approach followed so far, including objectives and strategies, has to be discarded and a new approach adopted which is not linked with the past and totally different from it.

What has been wrong with planning so far has not been its conceptual or logical or technical content so much as in its implementation, its lack of cohesion with social factors, and the impediments imposed by political, social, administrative and cultural forces rather than strictly economic facotrs. What is needed is not an exclusively new approach to replace the old but a reorientation and modification of the old with some additions to which shall be referring during this lecture.

I shall now deal with the additions to or modifications in the old approach in order to make what I call a new approach or new direction to Indian Planning.

New direction to planning

To begin with, the new approach should take due note of two major undesirable features that have accompanied India's planned economic development, namely, the widening rural-urban dichotomy, and the increasing difference between the consumerist life styles of the affluent minority and the poor majority, which has led to the creation of the dual society in India on which I have been dilating now for some years.

The objectives of Indian planning must specifically include, and in the forefront, the creation of an integrated Indian society where the distance between high and low is within the limits of psychological tolerance, and the high is within the reach of the low, with self-effort accompanied by appropriate training in skills and equal opportunities of access to assets, technology, credit and the other facilities required for a significant improvement in economic well being.

The strategy for achieving this must include not only a universalised basic needs programme but also equal opportunities in education and in income generating activities, unhampered either by hereditary or environmental constraints. It must also include both a ceiling on incomes of all kinds with flexibility in fixing its level and severe restrictions, if not a complete elimination of conspicuous or vulgar consumerist life styles. A national incomes policy with an egalitarian slant and an effective ladder is a must for inclusion in Plan objectives.

Emphasis on physical targets

There should also be a change in the way in which targets are fixed by the Planning Commission. In spite of the known ambiguities and handicaps associated with financial targets, emphasis still continues to be laid on financial rather than physical targets.

It is true that physical targets are mentioned quite prominently, but there is no clear indication of the link between physical and financial targets. Annexure 4.3 (pages 57-58) to chapter IV of the Sixth Plan document gives a classified statement by different heads of development of the targeted expenditure under public sector outlays, but there is no similar statement of physical targets, let alone any statement putting them both together to show the physical targets that correspond to the financial targets. It is difficult to find out from the Sixth Plan document to what extent expenditure under different developmental heads is the causal factor for targeted outputs and capacity, the role of other factors in achieving the targeted results, and the measures planned to make these factors effective and operational during the plan period.

The mid-term appraisal of the Plan published in December 1983 is also not helpful in the matter. There is no overall statement of expenditure incurred on public outlay under different developmental heads corresponding to the targets set out in the Annexure in the Sixth Plan document to which I had referred earlier nor of course is there any overall statement linking achieved expenditure with realised physical targets. Annexure I to the Chapter on 'Industry and Minerals' in the mid-plan appraisal gives details of physical targets actually achieved or estimated under different industrial heads, while Annexure II gives similar figures of expenditure but under different Ministries or Departments and not under the industrial heads dealt with in Annexure I.

It is not possible, certainly not for an outsider like myself, to link expenditure incurred with the physical targets achieved during the mid-plan period. Targets constitute the basic framework of Plan programmes and they require much clearer exposition in terms of the projected link between financial and physical targets in both the Plan and its Mid-term appraisal. The whole subject needs to be examined in depth at the technical level; and this could be done by the Economic Advisory Council to the Prime Minister and then discussed at a seminar organised appropriately by the Institute of Economic Growth (two of its former directors are members both of the Planning Commission and the Economic Advisory Council), under whose auspices I am delivering this lecture.

I would also suggest that Plan targets fixed by the Planning Commission in macro-terms should deal not only with the G.D.P. or N.D.P. and size of Plan outlays but also with the distribution of the expected additions to the NDP among the principal economic categories in the country by both industrial origin and income classes. Targets should also cover per capita income as that would clearly bring out the effectiveness and inadequacies of plan policies and programmes on population growth. They should also

include *the desired changes in the* consumption pattern of the planned output in addition to the national output of goods and services during the plan period. These additions to the target approach would make the Plan more meaningful to the common man and also more *indicative of its social justice* content.

Capital equipment and investment policy

The second set of suggestions I want to include in my new approach to Planning (they are really not so new) relates to capital equipment and investment policy. It is useful to remember that the additions to capital equipment projected for the Plan period constitute only a fraction of the existing stock of capital equipment. Also additional investment for capital creation during the Plan period is not identical with the additional capital equipment created, as part of the investment gets implemented only as works in progress at the end of the Plan period, while a part of the newly created equipment is the result of fructification of investment made in the earlier plan period or periods. But there is no information on their comparative magnitudes.

Similarly, of the additional output created during the plan period, only a part would be due to the additional capital equipment created by the additional investment, while a part will be accounted by the capital equipment created as a result of the fructification of investment made in earlier periods, and the remaining part would be due to better maintenance and repairs and replacements of the obsolescent stock of capital equipment existing at the beginning of the plan period. The last component could be either positive or negative depending upon the efficiency of maintenance and the offsetting of obsolescence.

Thus, neither the additional capital equipment nor the additional output emerging during and at the end of the Plan period is either wholly or unequivocally linked with the additional investment outlay projected for the Plan period. It is necessary to bear this in mind when planning the investment outlay and postulating its justification in terms of additions to output and to capital equipment during the relevant plan period. The functional composition of the investment outlay and its time-distribution in terms of expected results in additional equipment or output is therefore as important as its macro-magnitude in projecting its effect on the rate of economic growth during the Plan period. And this must be borne in mind when planning the investment policy for any defined Plan period.

The Planning Commission should therefore spell out the details of the investment it proposes for the Plan period by sub-magnitudes and in terms of both outlay and expected results in addition to output or equipment. There would be two broad categories, namely, increased efficiency from investments already made, and the balance of outlay that would result in completed or uncompleted new equipment emerging during the Plan period.

The first could contain two sub-categories, namely, investment in repairs and improved maintenance of existing equipment, and investment needed for maximising utilisation of the under-utilised capacity in existing equipment. The second would include two su categories, namely, investment resulting in complet new equipment during the period, either by completi uncompleted equipment from earlier plan periods by creating new equipment, and that resulting in u completed equipment that would spill over into t subsequent plan periods or periods for their compl tion. The following would be the schematic prese tation I propose of the Plan outlay on investment.

Total investment outlay

Existing completed or uncompleted equipment			New completed uncompleted equipme	
Repairs & better maintenance of completed equipment	Replacement in part or whole of existing equipment due to loss or damage or obsolescence.	Completion of existing uncompleted equipment	Completed new equipment	Uncompleted new equipment

Note : Equipment includes both construction and machinery.

It is only when we get such a statement of t proposed investment outlay in the Planning Cor mission's report and in its mid-term appraisal th meaningful judgements can be made on its impact actual as well as potential economic growth. It necessary to add that no such statements are to found in the reports of the Planning Commissio either in the Five Year Plans or Annual Plans or Mi term Appraisals. My new approach would emphasi the importance of including such a statement in t forth-coming Seventh Plan and in subsequent Fi Year Plans, Annual Plans, and Mid-terms Apprais

(To be continue

Technology transfer in developing countries-II

G.V. Joshi and Paul A. Rego

In part I of this article the author explained the channels for technology and benefits of transfer of technology to less developed countries. Here the author discusses the difficulties associated with the transfer of technolgoy, critically examines the case of so-called 'Intermediate Technology' and shows how the Japanese experiment can serve as a model for the developing countries which seek to achieve development through technology process

THE MODERN TECHNOLOGY, its critics say, is not an unmixed blessing. They highlight the difficulties associated with the assimilation and adaptation of technology of the advanced countries. The most fundamental difficulty arises from the fact that the technologies developed by the advanced countries are not well suited to the factor endowments and the state of development of the developing countries. The advanced technology is capital-intensive and as such, it is irrelevant in the developing countries experiencing the scarcity of capital and abundance of labour. Expressing this view, E.F. Schumacher observes, "That a technology devised primarily for the purpose of saving labour should be inappropriate in a country troubled with a vast labour surplus could hardly be called surprising." Robert Solow maintains that many of the advanced technologies cannot be transferred to the developing countries. This is due to the reason that the advanced technologies are evolved in an environment quite different from that of the LDCs. More or less in similar tone, Ghanshyam Singh has observed that the advanced technology can raise the living standards of the people only when its application is conditioned by the institutional framework, structural transformation and scientific infrastructure of the recipient country.

Heavy conversion costs

The difficulty of fitting the advanced technology in the LDCs is quite serious. There is enough evidence to show that only fully-trained and competent scientists and engineers are capable of assessing the merits of the latest technologies developed abroad, and making wise choices on which technologies to import. But the developing countries are facing the problem of paucity of men with critical skills. Therefore, they are compelled to incur heavy technological conversion costs whenever they have to fit the imported technology to the native environment.

Another but equally important problem, as P. Streeten and S. Lall opine, relates to the cost of advanced technology. One of the United Nations documents notes that technology should be made available to the LDCs at a very low charge because the transfer supposedly does not involve extra costs. The DCs in turn say that they cannot accommodate this demand because the technology is privately held and national governments cannot control the price at which it is sold. Indeed, the problem of transfer price is high on the agenda of international issues for developing countries. Within the UNCTAD, developing countries acting in the guise of the Group of 77, have proposed a code of conduct regulating the transfer of technology. One section of the said code asserts that all countries should promote the transfer of technology at a price favourable to the LDCs. The New International Economic Order (May 1, 1974) also emphasised that the LDCs should be given access to the achievements of modern science and technology on "improved terms."

The developing countries, being under strong internal pressures, have adopted protectionist policies with the object of promoting the growth of domestic industries. But the protectionist policies hamper technological transformation in a number of ways. For instance, under protective umbrella, these countries tend to start a wide range of industries—right from steel and cement to heavy electrical equipment. This necessarily results in spreading thin, the scarce and critical technical and managerial skills over a wide range of processing and manufacturing industries. Consequent thereupon, the modern technologies cannot be handled and the technological absorptive capacity is all the more strained.

Serious allegations

Further, there are many allegations against the MNCs. One of the most serious allegations is that they transfer obsolete and out-dated technology to the developing countries. Summing up his impressions of the Diesel engine plant run by the Joint Indian—American Kirloskar Cummine Company, the American economist J. Baranson (1966) said that many of the techniques described for the Poona plant were adapted from methods used twenty or thirty years ago at Columbus, when production volume was much lower, labour was cheaper and techniques were in an earlier stage of development.

The MNCs, it is found, adopt such tactics which tend to perpetuate the dependence of the LDCs on the advanced countries for the supply of technology. As already made clear, the main suppliers of technology have been mostly MNCs oligopolistically organised on a global scale whose main source of strength is technology protected by institutions of private property rights. The monopolistic position bestows upon them advantages in the process of the technology transfer; they consolidate it fairly easily given the weakness of buyers. Irrespective of ownership-mix (i.e., mode of transfer) the technology transfer is forged as an instrument to exercise control on production and marketing decisions of the technology recipient to subserve the global strategy of multinational framework. The point for emphasis is that the behaviour of technology suppliers is likely to be one of maximising surplus flows and to perpetuate the conditions of dependence.

Thus, the critics point out that the application of advanced technology is likely to produce some growth-retarding effects in the LDCs.

Intermediate technology

Considering the unwanted repercussions of advanced technology Schumacher has strongly advocated the development of 'intermediate technology' in the developing countries. His contention is that unemployment and urbanisation and the associated evils are the direct consequences of thoughtless application of modern technology in these countries. The primary task of the LDCs—and also of the givers of foreign aid—is to go straight into battle with the twin-evils of mass unemployment and mass migration into cities. Any strategy of industrial development in a developing economy must be able to meet the following requirements :

(1) Work-places must be created in the areas where the people are living now, and not in the metropolitan areas;

(2) These work-places must be cheap so that they will not involve an unattainable level of savings and imports;

(3) The production methods must be simple;

(4) Production should be largely from local materials for local use.

These four requirements, according to Schumacher, can be met only (a) if there is a regional approach to development, and (b) if there is a conscious effort to develop what might be called an 'intermediate technology.'

Despite its theoretical soundness, the idea of intermediate technology cannot take us far. Schumacher himself has admitted that it is not possible to arrive at any simple and clear-cut definition of intermediate technology. He merely states that, 'Intermediate technology must be appropriate to the country in question.' How to judge the appropriateness of a technology ? Westphal has contended that there is no any objective test for intermediate technology. There is no one set of specific identifiable characteristics of a technology which make it 'appropriate' out of context. Besides, the development of intermediate technology itself involves considerable inconvenience. The local development of technology to satisfy a local need is more chancy particularly when consideration is given to the risk-reward structure operating in the developing countries. On the other hand, an imported technology may be assumed a sure thing. Risk is minimised. Therefore, it has an appeal of its own.

International action

Moreover the critics of the advanced technology have not considered the simple fact that the intermediate technology, however useful it might be, cannot be an effective substitute for the advanced technology. Otherwise, why should the countries like India have a special interest in encouraging UN efforts to promote international action to harness science and technology from the point of view of developing countries ? A spokesman for the LDCs once said, 'We need technology and capital from outside which is being channelled through transnational corporations. Like it or not, this is a fact of life.' Further, it may be added here that the planners of the developing countries need not be unduly obsessed with the problem of choosing technology. Hoelscher's words can always linger in their ears, 'It is not the kind of technology but rather the kind of problem to be solved that is important'. If the advanced technology can solve a problem, there is no reason why it must not be transferred to the developing countries.

Thus, it becomes clear that intelligence lies not in condemning the advanced technology. On the con-

(Continued on page 22)

Poverty and population

S.K. Sharma

If India is to be saved from a Malthusian rap of population explosion a minimum hreshold level of consumption of basic ieeds such as food, clothing, shelter and other related matters must be provided to the poor in order to make a breakthrough in the elimination of absolute poverty. Only with the achievement of this level of consumption, people realise the implications of a rapid population growth, the author states.

A RAPID POPULATION growth accompanied by less than proportionate increase in per capita foodgrains production and uneven income distribution (failure to provide adequate productive employment) makes poverty and malnutrition persist in India. Thus, an attempt to study a nexus between poverty and malnutrition and measure their quantum and intensity would mean a critical study of population growth, foodgrains' production and its distributional aspects.

Poverty and malnutrition are interrelated. Greater the extent of poverty, greater the degree of malnutrition among the people. Poverty is both a relative and absolute concept which varies from country to country and region to region. It is revealed that malnutrition is largely among households who are not only poor but suffer from other social disadvantages and discriminations. Further, they have limited access to basic needs like safe drinking water, sanitation and health and educational facilities, since they are consigned to urban slums, rural ghettos. Because of extreme poverty and their tenuous link with the rest of the economy through inadequate uncertain opportunities and uneven income distribution, it always happens that any shortfall in aggregate food-supply leads them to decrease the consumption level of foodgrains. This leads them to nutritional deficiency which has a bearing on the health status of these people. That is why one finds that the life expectancy of people inhabiting urban slums and rural ghettos is much less than the average all India level.

Income-calorie relationship

With the introduction of income-calorie intake relationship of different income groups, the extent of poverty and hence the extent of malnutrition may be measured. In this context, relating the income level with poverty it can be stated that in absolute terms, poverty line is defined as the minimum income level at which existing expenditure pattern would satisfy nutritional requirements; and the population which is consuming below the nutritional requirement is termed as malnourished population. According to the U.N. estimate, daily per capita calorie requirement for India is 2210 calories.

In India on the basis of family household expenditure in 1977-78 the poverty line was defined as Rs. 65 per capita per month for rural areas and Rs. 75 for the urban areas. These figures in 1979-80 prices are Rs. 76 in rural areas and Rs. 88 in urban areas. According to the above estimate, the percentage of people living below the poverty line is 48.4 in 1979-80. The Sixth Plan with income distribution via basic employment creation among the vulnerable section expects to reduce the percentage of people below poverty line from 48.4 per cent in 1979-80 to 30 per cent by 1984-85. Implicit is the assumption that the per capita income of the lowest strata of people will rise. But so far nothing substantial is visible. Even if somehow the Sixth Plan succeeds in its target, some 215 million people will be below the poverty line which is a siz-

able number. Therefore, malnutrition as a consequence of poverty will not disappear even if we achieve some redistribution of income.

P. Visaria could show that in India, top third of the population as high as 57.6 per cent in rural areas and 28.9 per cent in urban areas have intakes exceeding requirements by more than 30 per cent. In the bottom third 39.3 per cent in rural and 47.2 per ecnt in urban areas have intakes falling short of requirements by more than 30 per cent. If the energy requirements mean anything at all departures from these norms to these extent should mean visible ill-health for these people. On this count, it is stated that the average calorie requirement as determinant of nutritional status does not give a true picture. It is argued that the process of governing variations in daily energy balances in human beings is not yet fully understood and a satisfactory theoretical framework for it is yet to emerge.

It is a fact that a sizable section of poor people suffer from malnutrition. It is also a fact that malnutrition is often limited to rural ghettos and urban slums where there are limited access to safe drinking water, sanitation and health and educational facilities.

Who suffer most ?

From nutritional point of view, the vulnerable sections that suffer most from malnourishment are children and pregnant or lactating women. Data indicate that weight-gain during pregnancy is lower in poorly nourished population groups. Indeed when conditions dietary inadequacy exist, the nutritional status of mothers is expected to be reflected in birth weights. Although birth weight is influenced by many factors, a high prevalence of low birth weights (below 2500 grams according to WHO) is indicative of short or long terms poor nutrition of women of gestation age and is associated with high infant mortality. It is estimated that there are some 30 per cent live births below 2500 grams in India.

Per capita food production

Food, health, education, sanitation, water supply and housing constitute basic needs of people, but even more than the others food is essential for day-to-day survival. While, the scarcity of food often has more severe consequences manifesting itself in malnutrition and in cases of acute shortages, in sickness, starvation and premature death. The experience of India with regard to population growth, food production and its per capita availability has been a battle against hunger. It also gives an indication of the progress India has achieved in feeding its teeming millions. Although, in absolute terms the growth of India's food production has been greater than that of population the margin between the two, i.e. the growth of food production per capita has been shrinking. There has been slow rise and sharp fall in foodgrains production over 1971. Only recently in 1983-84 it has jumped from 133 million tonnes in 1982-83 to 141 million tonnes. The foodgrains production had almost come to a halt of 130 million tonnes over 1978.

Although some studies have been made in this direction, one is basically interested in domestic supply and consumer demand of foodgrains taking into consideration the fact that one has to meet the nutritional requirement level. The most recent projection in this regard is by the National Committee on Science and Technology (1978). Food consumption models have been based on the intake of food materials to provide 2400 calories and 46 grams of proteins per day as recommended by Indian Council of Medical Research.

According to UN estimate, the Indian population by 2000 AD will be 1037 million under the medium variant. For this populations under the Model IV of NCST the requirement level will be 222.2 million tonnes. Taking a backward view of foodgrains production since 1950-51, one finds that the compounded growth rate during 1950-51 to 1971-72 was 3.5 per cent per annum and during the period 1971-72 to 1981-82 it was 2.6 per cent per annum. Further, during the period 1975-76 to 1981-82 it was only 1.4 per cent per annum. This shows the kind of diminishing returns in operation if further productivity is not increased. A realistic likely assumption for future growth in foodgrains production by 2000 AD will be around 178 million tonnes. This will fall short of requirement level by 44.2 million metric tonnes. Imports will increase year after year unless productivity of foodgrains is increased twice what it is now. The compounded growth of foodgrains production must be around 2.2 per cent and averare growth of foodgrain production should be around 2.9 per cent per annum.

Under the existing conditions. unless steps are taken to reduce the existing inequalities of food distribution, the proportion of the undernourished in India cannot be reduced to less than 5 per cent of the population even if one increases the average supply to about 3000 calories per capita per day. In India, existing inequalities of food distribution is very large corresponding to a standard deviation of more than 700 calories.

Care should be taken to see that first of all this inequalities of distribution should be checked (be reduced to a standard deviation below 700 calories). With measures to increase food supplies through extension of high gravity technology to crops of high calorific value other than wheat and rice, inter-cropping and multiple cropping, greater uniformity of distribution is the sine qua non if the percentage of undernourished is to be brought to a sufficiently low level. Further a minimum threshold level of consumption of basic needs-food, clothing and shelter and other related matters must be afforded to the poor in order to make a breakthrough in the elimination of absolute poverty. At the minimum the threshold level people understand the implications of a rapid population growth. It will also hasten the decline of growth of population. Failure to do so will put India into a Malthusian trap. ☐

Saving tribals from exploitation

Y.V. Rao

While discussing the evolution of the tribal development administration in its historic perspective, the author says, protection of tribals from exploitation has been receiving utmost attention of Government at all levels. In the light of their development so far, the tribals can look forward to further improvement in the quality of their life which may help them join the mainstream of national development.

TRIBAL COMMUNITIES in India, generally, are simple in their socio-cultural life; they enjoy a more or less self-sufficient economy. They can be said to be located geographically as well as economically on the fringes of the vast agricultural, rural communities of India.

The tribal people are an integral part of Indian society enjoying complete autonomy in socio-economic spheres. However, with the advent of British rule, they found themselves exposed to a plethora of adverse situations. With the introduction of outside forces such as money-lenders, traders, forest contractors and petty government officials the tribals experienced problems of acute exploitation and helplessness. These factors ultimately led to turbulence and turmoil resulting in a series of disturbances and unrest among tribal groups.

Problems of tribals

The problems of tribals are manifold. Some of which that call for immediate attention are : (i) tribal economy that is not only unorganised but also non-monetised; (ii) their dependency on money-lenders to meet their requirements during lean periods which further entangle them in the web of poverty and misery; (iii) indifference to education leading to low enrolment and dropouts in tribal schools; (iv) displacement due to projects like irrigation, power, mining and industry.

Government policy

Soon after Independence and with the setting up of a Constituent Assembly, it was decided to incorporate special provisions for protection and development of tribals. Article 46 of the Indian Constitution provides, "The State shall promote with special care the educational and economic interests of the weaker sections of the people, and in particular of the Scheduled Castes and the Scheduled Tribes, and shall protect them from social injustice and all forms of exploitation". The primary objective of the government policy in regard to tribal people and tribal areas has been directed to preservation of tribal culture and social customs from erosion, safeguarding traditional occupations, protection from exploitation by the more sophisticated groups, and their economic and social development.

Plans and tribal development

Various efforts have been made during the plan periods for tribal development. During the First Five Year Plan certain important problems such as poverty, lack of roads and communication facilities, shortage of drinking water and irrigation, education and health were considered. During the Second Five-Year Plan, developmental programmes in tribal areas were divided into groups; viz. (i) communication; (ii) education and culture; (iii) development of economy and (iv) health, housing and water supply.

National Extension Service Blocks were demarcated on the basis of an average population of 25,000. In the most backward tribal areas, it was planned to set up 40 Multi-purpose Pilot Projects.

The Third Plan provided for expansion of tribal development blocks, aiming at intensive and coordinated development of tribal areas on the general pattern of community development, but modified to suit tribal conditions and supplemented by additional resources.

During the Fourth Plan period, the emphasis was laid on consolidation of gains already achieved and improvement and expansion of the services so that the process initiated in the earlier plans could be put on a more sound footing. An important dimension of tribal development in the Fourth Plan was to intensify protection to tribal population from exploitation by more sophisticated elements through legislative and executive measures.

An important initiative was taken by the government to select six Tribal Area Development Projects (TADPs) in late 1971-72 which were to be implemented by Tribal Development Agencies. The success achieved in these projects led the government evolve, in the Fifth Plan, a new strategy in the direction of a sub-plan intended to cover tribal areas having at least 50 per cent tribal concentration. The main objectives of the sub-plan were : (a) to narrow down the gap between the levels of development of tribal and non-tribal areas and (b) to improve the standard of life of the tribal communities. The sub-plans have been envisaged as integration of all efforts for development of the tribal people and their areas. The sub-plan areas have been grouped into 179 Integrated Tribal Development Projects as operational units. The programmes undertaken under the sub-plan include agriculture and allied sectors, irrigation, marketing and cooperation, education, health and other related programmes.

An important feature of the Sixth Plan is the formulation of project reports and programmes for primitive tribes; arrangements for monitoring and concurrent evaluation are also being strengthened for all tribal development programmes.

Organisational framework

The organisational framework for tribal development derives its basic structure from the Indian Constitution. The Union Ministry of Home Affairs is responsible for policy formulation and coordination of all tribal development programmes. It has certain amount of power in regard to allocation of funds in consultation with the Planning Commission.

The Planning Commission provides the needed analysis and technical support for national development plans including tribal development. As a part of Constitutional requirement, the government created an office of the Commissioner for Scheduled Castes and Scheduled Tribes in 1951.

Besides the Union Ministry of Home Affairs, other Central Ministries such as Ministries of Rural Development, Education and Culture, Social Welfare, Health and Family Welfare, Housing and Cooperation and Civil Supplies are also participating in tribal development.

The Commission for Scheduled Castes and Scheduled Tribes was set up in 1978 considering the magnitude of the problems faced by Scheduled Castes and Scheduled Tribes. The Commission is required to submit an annual report to the President detailing on its activities with suitable recommendations. It may also submit reports to the government at any time it considers necessary.

At the state level

The State Governments and Union Territories have separate departments to look after the welfare of the Scheduled Castes and Scheduled Tribes and other backward classes. In Bihar, Madhya Pradesh and Orissa separate ministries of Tribal Welfare have been formed as provided in Article 164 of the Constitution exclusively for tribal development.

A Cabinet Sub-Committee under the Chairmanship of the Chief Minister has been constituted in each State having sizeable tribal population for guiding developmental programmes in tribal areas. The Tribal Welfare Departments have been strengthened in all States and Union Territories. Besides the Cabinet Sub-Committee, a High-level Committee, with the Chief Secretary as its Chairman and the tribal development Commissioner as Member-Secretary, has been set-up for speedy decision-making on inter-departmental problems.

Tribes Advisory Councils are functioning in certain States which advise on such matters pertaining to the welfare and advancement of the Scheduled Tribes in the State as may be referred to them by the Governor.

Tribal sub-plans

The Special Multi-purpose Tribal Block forms the basis of Tribal sub-plan which was converted into Tribal Development Blocks in course of time. Later, as it was observed that the Tribal Development Block was too small a unit for planning, coordination and implementation of long-term developmental programmes, a new strategy was evolved for tribal development in pursuance of which six pilot projects viz. Tribal Development Agencies were launched towards the end of the Fourth Plan.

The Tribal Sub-plan strategy being followed during the Sixth Plan is being implemented through Integrated Tribal Development Project. A sub-plan, part of district plan for predominantly tribal populated areas, covering several tribal development blocks is prepared. The sub-plan takes an integrated view of the problems of the tribal people—an outline of the various programmes, physical inputs, financial outlays, area and programme specific infrastructures in that given district. All activiies of various government, semi-goverament, financial institutions, etc. are integrated in the sub-plan so as to present a total picture of the tribal region.

The project authority, namely, Integrated Tribal Development Agency has been constituted for each ITDP with the District Collector as its Chairman, the district heads of departments as members and

the Project Administrator as the Member-Secretary. This authority brings in an element of collective leadership. The agency becomes responsible for alround development of the area.

After Independence a number of national and state-level voluntary agencies have been working for the promotion of the interests of the tribals. Their activities are mostly concentrated on education, medical relief and cooperation.

Financial investments in the successive Five-year Plans have progressively increased. In th new sub-plan, financial provisions are made from four sources—State plans, Central plans, Special Central assistance for tribal development and institutional finance. The new policy of financial integration has helped in escalating outlays substantially.

Training of personnel

Administration and technical personnel involved in the States and at the Centre have to undergo academic as well as field and technical training to equip themselves to discharge their duties effectively. The personnel dealing with tribals require special training to understand their problems and appreciate their customs before they embark on formulation and implementation of plans for their development. Based on the recommendations of various working groups, Training and Research institutions have been established at various levels. At the national level the NIRD endeavours to recommend steps to remove fault in the existing plans and programmes, and disseminate information on programmes to the target groups. At the state-level, there are 11 Tribal Cultural Research and Training Institutes.

Protection of tribals from exploitation and socio-economic development has received attention at all levels of government. The Five-year plans have made significant improvements in the life of tribal people. The strategy of tribal sub-plans have begun yielding positive results. Investments in successive plans progressively increased. In the light of th foregoing plans and activities we can look forward to further improvement in quality of life for millions of tribals and their joining the mainstream of national development. That is sure to usher in an era of a tribal population with a polished culture, keeping in tact its basic elements. □

Science helps Basohli shawl industry

Suraj Saraf

AN INTERESTING and instructive instance as to how scientific research could help even an apparently small but actually significant project helping the people economically has come from the Regional Research Laboratory, Jammu.

It underscores the fact that it is not only the spectacular research in basic science that the scientists should aim at, but that they must also look around to help solve the problems faced by different sections of people.

This interesting as also instructive story concerns a town Basohli in the hills, about 130 kms. east of the capital city of Jammu. Basohli had a tradition of shawl making in the last century which had become extinct. Efforts had been made to revive the industry in the post-Independence era. Basohli shawls had been quite a rage. However, they were a rough sort that did not fetch a high price, like the Kashmiri shawls, for their producers.

The problem was brought to the notice of the Regional Research Laboratory, Jammu, by the State Industries Department.

A team of the laboratory led by its Director, Dr. C. K. Atal and head of the Fur and Wool Division of the Lab., Mr. B. K. Wali, visited Basohli and made on the spot assessment of various cottage units and their products. According to Dr. Atal the problem was to evolve some simple and reproducible technology suited to local conditions to make Basohli shawls whiter, brighter and softer.

The task of evolving suitable technology was started which was also demonstrated to the shawl workers at Basohli. It won approval from state authorities as also from artisans. It was a simple change in the existing procedures for bleaching that did the trick for brightening as also softening the rough shawls.

Mr. B. K. Wali told me that bleaching was ordinarily done by either of the two methods viz., by reducing agents or by oxidising chemicals. However, the former did not remove all the contaminants that got mixed in the wool (in handling at various stages), and the bleaching effected by it was not permanent. On the other hand though the oxidising chemicals gave better result, it was risky method and if not carried out very carefully, it damaged the wool fibres.

The technology evolved by the lab. employed both the methods using oxiding chemicals first and reducing chemicals later. Not only that it obviated the risk of damaging the wool and got permanent and good bleaching, but what was still more welcome was that it also made the wool softer.

Softness of the wool depended on its peculiar chemical structure that in turn, depended upon the wool generating animals being reared under certain conditions. The best wool is obtained from goats reared in Ladakh heights. Kashmir finer fibres of wool are hand picked by the weavers to produce fine shawls and some of the coarser part of the fibres is rejected. However, the Regional Research Laboratory, Jammu, achieved the softness by applying suitable chemicals to the rough wool.

To improve the quality of the Basohli shawls further, a method for imparting good lustre to them was also demonstrated by the laboratory scientists. This involved the use of a caustic bath for a short period. A method for properly dyeing the shawls was also demonstrated. □

Social forestry in Orissa problems and prospects

Padmalochan Behera

Love of trees and flowers is ingrained in the nature of Oriya people and has found vivid expression in their literature and arts. As a major plank of development in the state, the author underlines the need to evolve social forestry programme by identifying its objectives, goals and its effects over a long term perspective.

THE SOCIAL and psychological profile of Orissa is suitable for the implementaion of Social Forestry Programme as the State has a long tradition of growing tress like neem, banyan and pipal. Great religious sanctity has been attached to the plantation and protection of the neem because the three deities—Jagannath, Balabhadra and Subhadra—are made from its wood. Love of trees and flowers is ingrained in the nature of Oriya people and has found vivid expression in their literature and arts.

A major development plank

Social forestry has been a major plank of development and a massive plantation programme has been undertaken in the State. From 43697 hectares plantation in 1980-81 and 56,458 hectares in 1981-82, the programme was to cover nearly 1,00,000 hectares in 1982-83.

The state government has recently launched a five year Social Forestry Project of Rs. 23 crores with the help of the Swedish International Development Authority (SIDA) which intends to establish 21,700 hectares of village woodlots in nine districts. It also aims at reforesting 23,500 hectares of degraded reserve and protected forest and barren hills. Apart from seedling facilities, the project will create permanent nurseries to expedite afforestation programme.

The poor are now being encouraged to start farm forestry under a new programme known as The Economic Rehabilitation of Rural Poor (ERRP). The government will meet all the expenses for four years, if a poor person wants to start planting cashew and sisal, and five years for coffee. If the beneficiaries have developed skill in Mulgerry or Tusser, the Government will provide the expenditure necessary for tree planting and equipment including training free of cost.

The Harijan and Tribal Welfare Department is also promoting horticulture—both Tusser and Mulbery—in tribal areas. A large scale horticulture plantation is being taken up to improve the tribal economy and weaning away the tribals from shifting cultivation. Coffee cultivation on commercial basis has been launched in Phulbani district to help the local tribals.

While an area of over 200 acres in Daringibadi has been brought under coffee plantation, it is proposed to launch 5,000 acres of plantation in Phiringia, Daringabadi and Pabaria areas in the coming years under NREP scheme. Coffee and pepper complex grown in this area is very lucrative.

It is desired to grow coffee supplemented with black pepper. One plant in each shade would provide a substantial income per acre. Besides, the cultivators would get regular employment round the year in the estate. They would also avail themselves of the opportunity of growing coffee in their private holdings with subsidy being given by the Coffee Board.

The Soil Conservation Department has a pool of trained and experienced coffee specialists who are rendering technical guidance to the interested tribal

growers. During 1981-82, the State Department distributed 10 lakhs coconut seedlings, 2 lakhs citrus plants and over 1.6 lakhs other plants and seedlings free of cost to over 1.16 lakh Harijan families.

Voluntary organisations

The voluntary organisations have also come forward to help. OXFAM, for instance, has started communal plantation programme in the villages near Tikarapara. The villagers have been able to plant jack fruit, mango, mohua, bamboo and myrobalan on 14 acres plot of communal land.

The National Social Service (NSS) volunteers of various colleges of Utkal and Berhampur Universities are taking part in the implementation of social forestry programme in the state. For instance, the teachers and the students of a local college have adopted the Kesharpur village to start a community forest. Besides supplying the necessary seedlings, the Forest Department has been rendering technical guidance for this new village forest.

Apart from this, many colleges and schools of the state have created "student forests" on vacant land in and around their institutions. These forests will help in the beautification of their institution. However, the money raised from these forests will be utilised for giving aid to poor students.

Panchayat forest

A "Panchayat forest" has been grown at Lapnga village of Sambalpur district. The entire village community is involved in protecting, controlling, managing and utilising this forest. The villagers have the multiple advantage of tree growing—food, fodder and subsidiary product. This forest has helped most of the poor peasants of the village out of their poverty. In addition, it has created conditions for the breakdown of caste and other socially divisive barriers. The "Panchayat forest" has been working as an instrument for a spectacular socio-economic transformation of this village with its focus on the poor.

Rationale of social forestry

Wherever the social forestry has been properly implemented it has made a visible difference to the lives of the affected people. The state has enough idle-land resources and waste lands at its disposal. They consist of roadsides, river and canal banks, sides of railway tracks, degraded and unused area of villages, schools, colleges, offices and hospital compounds, cremation grounds, etc. If plantation will starts on a large scale it can generate more employment for the poor. A cost benefit analysis conducted by an ecologist supports this point. If a sum of Rs. 500 crores is used for forestry, five million acres can be covered with trees every year. After the fifth year, a million and a quarter acres can be cropped.

Apart from 1,00,000 people who will be required for the purpose, an equal number will be employed in soil preparation, conservation and harvesting operations. In addition, the collection and processing of forest products will generate a large number of jobs. The total employment created will be around 3,00,000. The benefit from this investment if calculated in hard currency amounts to over a hundred thousands crore rupees. Though forest is a source of revenue, its real worth lies in being a source of livelihood for millions of poor.

In the coastal districts of Balasore, Cuttack, Puri and Ganjam, and some other forest hungry pockets of the state, the people burn cowdung as fuel for want of firewood. Social forestry can supply enough fuelwood. As the State is yet to be self-sufficient in food, it can use cowdung, a rich organic manure, to maximise food production. Social forestry will also provide adequate fooder to the cattle. This will benefit poor farm families who solely depend on the sale of milk.

Moreover, the social forestry programme expects to help in stopping and checking the shifting cultivation practised by the tribals in the districts of Koraput, Phulbani, Mayurbhanj, Keonjhar as this mode of cultivation has become "a supplementary form of industry" today. Even when a family of "Savaras" possesses cultivated fields in the plains, they sometimes have their own fields for axe-cultivation up on the slopes of the hills, where they raise special types of crops which are readily purchased. This form of cultivation is unfortunately destructive.

The social forestry programme can protect the destroyed hill slopes from wind and soil erosion. It can also be helpful in checking the droughts and floods frequently occuring in the State. The plantation of trees will increase the humidity, draw more water from the deeper layers of the soil and stop silting of riverbeds. As Orissa is at the threshold of industrialisation, there will be a growing need for packaging materials, timber and other raw materials for cottage industries.

Social forestry can help to raise quality of life, as the human need structure includes : survival needs (food, shelter, employment, (etc.); societal needs (social cohesion, peace, communityness); welfare needs (fair deal to the weak, the disable, the handicapped and the vulnerable), and psychic and cultural needs (provisions for recreational amenities).

Task ahead

However, Orissa's performance in this respect is not enough in comparison to other states like Karnataka, Gujarat, Tamil Nadu and Maharashtra. It is yet to get popularised among the rural masses. So the role of mass media is important here. Folk dances of Orissa like 'Daskathia' and 'Pala' should be organised in villages to convey the social forestry's message by explaining suitable anecdotis from the various religious and secular scriptures.

The State Government should evolve its social forestry programme by identifying its objectives, gold and its implications on a wider spectrum. Creation of a new department of Social Forestry would

be welcome. Besides helping in the implementation of the programme in the interior parts of the state, the department could be given the task of mobilising funds, providing market facilities for social forest products and regulating process of production incentives.

Voluntary organisations should be encouraged to take up individual projects. For an effective implementation of Social Forestry Programme, there should be a close co-ordination between the Agriculture and the Forest Departments and their research wings to develop appropriate seedlings keeping in view the geo-climatic condition of a particular region.

The social scientists, especially the economists and the sociologists, can help in identifying the areas by taking the socio-economic conditions into consideration for its implementation. They can provide bench marks and background data on which future social forestry programmes can be formulated.

(Continued from Page 14)

trary, intelligence lies in minimising its evils and mixmising its utility.

Japanese model

The historical experience of Japan stands in sound testimony to the fact that development can be attained by transferring and adapting the advanced technology. Before the Meiji Restoration (1868), this country had a technological base that was far behind that of developed countries of the west. The Meiji Government assumed the lead in pioneering new technology. It took the positive action of engaging foreign experts to instruct the Japanese in western methods of mining and maufacturing. The Japanese were also sent abroad to acquire western knowledge. To provide technical training on Western lines, schools and colleges were opened. Agricultural experimental stations were set up to assist in the adaptation of foreign crops to Japanese conditions and to promote improved methods of farming. As a result of all these policies and programmes, Japan, by the end of 19th century itself, came to possess a body of competent scientists and engineers who could expedite the rate of technological progress

As and when required the Japanese adjusted and adapted the Western technology to suit the local needs. This was done in such a manner that the traditional skills of the people were not ruined. By the dawn of the present century, Japan began to set up heavy industries, e.g., (textile industry) by importing second hand technology. Additional workers were employed to repair and to keep these machines in order.

The Japanese Government established special institutions to provide finance to industries interested in effecting technological assimilation and adaptation. The combined effect of all these programmes was that Japan could march ahead on the road towards rapid industrialisation. Her industrial production in 1953 was over 40 per cent more than in 1935 and in 1957 it was well over twice as much.

Throughout all this, the Japanese gradually improved their technology, utilising limited but increasing amounts of mechanical power and relatively large but decreasing amounts of labour. That approach—bringing in modern technology piecemeal to supplement and modernise the traditional economy—was a source of considerable strength to Japan. Japan, we can say, has become a pace-setter for those developing countries which seek to attain development by effecting the transfer of advanced technology.

The advanced technology can be an instrument of economic development in the LDCs, albeit the problems that it creates. The Japanese experiment can serve as a guiding star for the LDCs which aspire to attain economic development by effecting the transfer of technology from the developed countries.

A case study

How could concessional finance help the poor ?

A. S. Rana

The poor will be able to derive maximum benefits from concessional finance facilities if banks and other concerned organisations relax the rigid eligibility concessions, eliminate delays in sanctioning loans and chalk out an effective follow up programme. The needy must be made aware of the various schemes which could help them to come out of poverty, the author says.

If we trace the history of banking system, the idea of a bank was evolved out of a feeling to help the poor. According to Encyclopaedia Britanica. "The original plans for Saving Banks were more than tinged with a spirit of benevolence and paternalism emanating from the more fortunate members of the community who wished to help the poor and at the same time relieve themselves of the burden of charity".

The Banking Commission in 1972 recommended that the public sector banks should take steps to help the poor to come out of poverty. The public sector banks adopted a Differential Rate of Interest (DRI) Scheme to advance loans to the marginal and small farmers, agricultural labourers, artisans and the needy at 4 per cent rate of interest.

This concession has further been enhanced by providing subsidies to the borrowers to the extent of 1/3 or 1/4 of the amount of loan depending upon their economic condition. Agencies like Small Farmers Development Agency (SFDA) and Integrated Rural Development Programme (IRDP) were set up to help the deserving persons with subsidies and recommend their cases to the banks under DRI Scheme. An attempt is made here to ascertain the impact and implications of concessional finance on the borrowers from weaker sections of four villages of Jahangirpur, Boria, Dhour and Silani in the Jhajjar Tehsil of Haryana, after interviewing 40 farmers who were advanced loans from December 1979 to February 1982.

Findings

The conditions regarding eligibility of the borrowers under DRI Scheme stipulate that the annual income must be below Rs. 2000 per family; the borrower has not employed any outsider; and in case of a farmer, he should not possess more than 30 kanals of irrigated or 140 kanals of unirrigated land. Such persons can get a loan to the extent of Rs. 5,000 as fixed capital or term loan and Rs. 1500 as working capital.

The study shows that none of the borrowers had taken loan to the maximum authorised limit of Rs. 5,000, and applied for the working capital for fodder, etc. Average loan taken for buying pigs, sheep and buffaloes was Rs. 2,500, Rs. 3,500 and Rs. 2,900 respectively. Sixty per cent of the borrowers were from Scheduled and backward classes.

Thirtyeight of 40 borrowers made the proper use of loan against which it was taken. However, these borrowers under the DRI Scheme have been suffering losses due to one or the other reason. Average loss suffered by each borrowers worked out to Rs. 1470 per annum. On an average, the loss suffered by them in case of piggeries, sheep and buffaloes amounted to Rs. 2,020, Rs. 1,140 and Rs. 359 respectively.

The report shows that no increase in assets was registered except the animals purchased with the loan. Rather the assets declined to the extent of deaths of fully grown sheep and pigs. Consumption standard of the people rose marginally only in case of buffaloes. None of the borrowers developed banking

habits and could come out of the eligibility conditions.

Poor loan recovery

Recovery of loans was found to be very poor as only 25 per cent of the loanees had deposited their loan instalments by the end of 1982. However, borrowers who had purchased buffaloes were found to be more or less punctual in depositing their instalments. They were mostly non-Scheduled Castes. In other cases, mostly Scheduled Castes, recovery was almost nil. They were finding it difficult to deposit the instalments, the simple reason being that they could not earn anything out of the investment. They were also found unwilling to take further loans as they were finding it difficult to return their previous loans. But the borrowers who had purchased buffaloes and deposited their due instalments, were found willing and eager to take more loans.

The study shows that the loanees experienced difficult conditions due to a number of obstacles faced by them. These obstacles can be categorised into : (1) personal obstacles, (2) institutional reasons.

Personal obstacles : Ignorance is wide spread and deep rooted as highlighted by the fact that 90 per cent of the borrowers did not know the rate of interest being charged from them and the amount of subsidies they were getting.

They also failed to make full use of the banking, medical and insurance facilities available to them. None of them took loan to the maximum authorised limit. The worker looking after one buffalo could also look after three, and so could be the case with pigs and sheep. The cost of labour was found high. As they did not feed the animals well, they fell easy prey to diseases. The loanees also did not approach the doctor in time. In most of the cases dead bodies of animals were buried and doctors were informed later on, for postmortum, etc.

They were also found wanting in pursuing their claim for the insured dead animals from the Insurance Company. They failed to do right things at right time. No proper arrangement for shelter in winter and rainy season was made, particularly in case of sheep. The loanees did not try to find better market for their products like wool, milk and small animals.

Institutional obstacles : This category of hurdles consists of wrong procedure followed for advancing loans and unhealthy attitude of doctors, banks and insurance companies. Banks did not pay the amount of loan directly to the borrowers but made payments to the persons from whom they purchased the animals. The beneficiaries could not exercise their choice in the selection of animals with the result that animals of poor quality were purchased at a higher cost. This mode of advancing loan followed by banks had been responsible for wiping out the benefits of subsidy and interest rate concessions.

Secondly, the dearth of medical facilities available for the animals, particularly for sheep and pigs led to a high death rate of animals. This loss was compounded by the indifferent attitude of insurance companies. Not even a single case was detected where the payment was made against the claims made after death of insured animals. Doctors charge not less than Rs. 100 per postmortum. Those who had got the postmortum done at a right time to recover the insurance claim were denied payment on the pretext of non-completion of this or that formality. Learning a lesson from others experience farmers shield away from making insurance claims.

Suggestions

These hurdles can be removed if some necessary steps are taken, both at personal and institutional levels.

The beneficiaries should acquire the knowledge as to how they could extract the maximum benefits from the available facilities. It is suggested that the intending loanees should be covered under the adult education programme which has to be integrated with their economic uplift. Adult education instructor can guide them in how to avail of full benefits of available banking, medical and insurance facilities He can also help them in preparing economical viable schemes for them.

Institutional norms

As part of better institutional norms, the procedure of advancing loans has to be streamlined. The doctors, banks and insurance companies should treat the applicants on preferential basis. The amount of loan must be paid directly to the borrowers in cash to enable them to have a free hand in the selection of animals. The inhibitions cultivated by bankers that borrowers would misuse the loan is empirically not true, since the same could be done under the present system.

In two of the cases under study the loanees sold their buffaloes and used the credit for other purposes. The beneficiaries should be encouraged to recognise their real needs and banks should sympathetically consider their requirements. In addition, a helping hand by the insurance companies by way of streamlining the claim procedure will go a long way in mitigating the hardships encountered by the affected loanees.

Banks advancing loans must ensure the availability of shelter, fodder and grazing grounds for animals in the concerned area. Doctors may be instructed to visit the borrowers at least twice a month and make proper arrangements for the required medicines. Besides, the loanees should be encouraged to take additional loans for fodder and expansion of their economic activity so that economies of scale are fully enjoyed by making optimum use of labour, shelter and other factors.

Keeping in view the rising prices, amount of loan must be raised from Rs. 6500 to Rs. 9000 per loanee. At the same time eligibility conditions must be relaxed where size of family exceeds five members. It will ensure wider coverage of the weaker section under the DRI Scheme. □

Solar energy for rural areas

J. R. Meena

The utilization of solar energy can help in solving social, economic and environmental problems by preserving the forests and increasing agricultural productivity. The author says that utilization of solar energy can improve the quality of life in our villages by providing cooking, water pumping and crop drying facilities at minimum cost.

IN view of its abundance solar energy has maximum potential in our country. The sun shines for nearly 300 days of the year, on an average, in most parts of the country. The total solar radiation received by our land mass is about 6×10^{14} MWH per year. Most parts of the country receive as high solar insolation as 600 calories per sq. centimetre per day and thus the utilization of solar energy for possible applications which are discussed in the succeeding sections can be very effective.

Rural areas are predominantly agricultural economies : self-sufficient and relying heavily on non-commercial supplies including dung cakes, fuelwood and crop residues. In many villages, nearly half of the energy consumption is met from non-commercial fuels.

The rural areas need energy for the following activities :

Domestic use—cooking, water supply, lighting, water or space heating in hilly and cold regions, entertainment and communication.

Agriculture and allied productive activities—irrigation, drainage, pumping water for irrigation, drying, running farm machinery, fodder cutting, grain storage etc.

Transport sector—transportation of agricultural products, passengers, etc.

Small-scale industry use—cottage industry, cutting and sawing wood, pumping saline water in salt works, grain grinding, spinning and weaving, etc.

Social facilities—education, sanitation, medical care, public lighting, cultural pursuit.

Table 1 : Energy Sources and Devices for Rural-end-uses

End Uses	Energy Sources		Energy Devices
	Primary	Secondary	
1	2	3	4
95°–250°C heat cooking	Animal/Agro/Agro-wastes Energy Forests	Biogas Wood/charcoal	Gas burner Wood charcoal stove
Stationary mechanical work (water-lifting, milling industries, etc.)	Draught animals Human labour	Animal energy Human energy	Animal powered devices Pedal powered devices
	Wind Animal/Agro-waste Energy Plantation Grid/Microhydel/Genset Wood Crops	Biogas Wood/charcoal Electricity Methanol Ethanol	Windmills Biogas engine Producer gas engine Electric motor IC engine IC engine

1	2	3	4
Mobile mechanical work	Draught animals Human labour Energy Forests	Animal energy Human energy Wood/charcoal	Animal powered devices Pedal powered devices Producer gas engine
(Ploughing, Transport etc.)	Wood Crops Animal/Agrowastes	Methanol Ethanol Biogas	IC engine IC engine Biogas engine
Light	Grid/microhydel/Genset	Electricity	Incandescent Fluorescent Lamps
Less than 95°C heat (water heating, drying etc.)	Wood/charcoal stoves Solar	waste heat —	Water heater Solar dryer Water heater
More than 250°C heat	Wood/charcoal	—	Furnace
(Pottery, brick making, smithy)	Animal/Agrowaste	Biogas	Furnace

For some of the above applications the utilization of new and renewable sources of energy seems to have tremendous potential in the foreseeable future. Several applications based on renewable energy technologies are mentioned in Table 2.

Table –2 : Applications based on New and Renewable Energy Technologies

Sector	Application	Present Commercial Fuel Source	Renewable Energy Source/ Device
Household	Cooking* Lighting	Coal/Kerosene/LPG Electricity/Kerosene	Biogas /Solar Cooker Biogas/Solar photovoltaic systems
	Water heating*	Coal/Kerosene/Electricity (urban households)	Biogas /Solar water heating system
Irrigation and Water Supply	Pumping*	Diesel oil/Electricity	Solar photovoltaic pump/ windmill/biogas or alcohol engine.
Agriculture	Ploughing	Diesel	Engines based on biogas, alcohol etc.
	Drying*	Coal	Solar
	Refrigeration (cold storage)	Electricity	Solar/Alcohol refrigeration systems.
Industry	Heat for rural industries e.g. brick making smithy etc.*	Coal	Biogas/Solar heating systems
	Milling, grinding threshing in small scale industries (Stationary mechanical work)	Electricity/Diesel oil	Biogas /Alcohol engine/ windmills.
	Water and air heating, low pressure steam	Coal/oil/Electricity	Solar Water and air heating systems

**Various non-commercial fuels, renewable energies, such as solar heat, and/or draught animal power are currently being used for these applications in varying degrees.*

Solar energy in view of its abundance has great potential for several applications in rural areas. Some of the applications that seem to be appropriate for use in village are : cooking, lighting, water pumping purification of brackish or saline water, refrigeration, water or space heating in cold or hilly regions, production of salt from sea water and small-scale electricity generation.

The possibility of utilizing solar energy for these applications is immense.

Cooking

Most of the energy consumed in rural areas is for food preparation. Cooking with solar energy is one of the promising and immediate applications which has great potential in rural areas. With the widespread utilization of solar cookers, it should be possible to reduce or eliminate the increasing pressure on forests, cattle dung (which is a high grade manure), and agricultural wastes. In India, efforts have concentrated on 3 main types of solar cookers, namely, simple hot box-type cooker, oven-type cooker and a cooker based on concentrating solar radiation by paraboloid mirror reflector which directly heats the cooking vessel. Keeping in view the cost, simplicity and social

onvention, the first type of cooker has been found nost suitable for widespread utilization in the country. This type of cooker can be used for cooking rice, vegetables, boiling dals and making other food preparations. As the present cost of such cookers appears to be high for the average rural poor, there is a provision of subsidy by Government or loan from banks for the purchase of cookers. Under the subsidy scheme, several thousands of cookers have been sold in various States and Union Territories of the country. The users are satisfied with the performance of the cooker and the demand for cookers has gone up considerably.

Water pumping

Water pumping is an area of great significance. For more than four centuries, canals, rivers, tanks, etc. have been in use for supplying water for irrigation and drinking purposes. Even today, many rural areas depend upon human and animal muscle power for lifting water for drinking water supply or irrigation. Age old techniques are still prevalent for water lifting. Utilization of solar energy for pumping water has a promising future. Both photovoltaic and thermal power water pumping system have been developed in the country. A number of solar photovoltaic water pumping systems have been installed for demonstration and field trials for drinking water supply or micro-irrigation. Solar thermal pumps are, however, still at an experimental stage, though a number of organizations in the country are engaged in R&D work in this area.

Food and crop drying

Food and crop drying is one of the most important and immediate applications of solar energy in rural areas. Solar energy has been used for the open air drying of agricultural c.ops for a long time. However, his method exposes the products to be dried to contamination by dirt, insects and rains, exposure to birds and rodents and, in areas or seasons of high humidity, to mould and fermentation. Improper and inadequate drying is one of the contributors to the problems of food losses in the country. As grain drying does not require very high temperatures, the use of solar energy for this purpose has considerable promise. Several solar drying systems in which solar heated air is blown through packed products in protected surroundings have been developed.

The solar drying technology is simple and its viability has already been demonstrated for drying of a variety of products. Solar kilns for timber drying have also been developed and installed for demonstration at different places in the country. The main problem in the widespread utilization of solar energy for drying purposes, however, seems the lack of manufacturing facilities and institutional mechanisms especially in rural areas where solar dryers have wider uses.

Desalination

There are many rural areas in the country where drinking water scarcity has been a chronic problem. In arid, semi-arid or coastal areas, there is abundant sunshine that can be used to produce potable water from brackish or sea water for consumption by humans or animals. The desalination technology is simple and small solar stills can be fabricated locally in rural areas. Besides its uses as drinking water, the distilled water can also be used in health centres and school laboratories in remote and rural areas.

Refrigeration

Cold storage facilities are much needed in villages and isolated areas for the preservation of foodstuffs, medicines vaccines, meat, fish etc. Solar refrigeration can provide an effective solution to preserve such materials in rural areas. Solar powered stores can be set up in remote rural areas even with the little infrastructure facilities available and because of good matching between cooling load and solar energy availability. A 10-tonne cold storage plant has been installed at Kasiya in UP utilising solar energy.

Water and space heating

The utilization of solar energy for water or space heating in hilly regions and cold areas also appears to have great potential. In villages where the value of hot water is becoming recognised as important aid to cleanliness and health, interest, in solar water heating system is growing. Solar water heating systems also have relevance for many agricultural tasks and for village industries such as handloom fabrics, sericulture, leather tanning and hand made paper. Also, in commercial establishments, there is a tremendous potential for solar water heating systems, especially in hotels, hospitals, guest houses and hostels. Such water heating systems for domestic, industrial and commercial applications are now available. Various large size water heating systems have been installed for demonstration in hotels, bakeries, hospitals, breweries, dairy farms, etc.

Another application of solar energy is for space heating and cooling. The country has a very broad spectrum of climatic conditions. In some areas, the temperature during winter months may go down below 0°C, while in other parts in summer months the temperature may range from 32° to 49[C. In order to make these conditions more comfortable, space heating and cooling is normally resorted to. The use of solar energy for this puropse may lead to considerable savings in the consumption of electricity in urban areas and fuelwood in cold or hilly areas of the country.

To produce salt by evaporation of sea water and inland brine is an ancient practice used in the country. It is one of the best direct uses of solar energy that is immediately available for exploitation wherever salt containing water occurs in conjunction with appropriate climate.

Electric power generation

It may be possible to use solar energy for small scale electric power generation in rural and isolated areas. Solar energy is a natural source for decentralised

electric power generation, for domestic and collective uses particularly, in small scattered rural communities. Considering the current status of solar technology and the present high cost, the first major application of solar electricity will, therefore, probably be in arid or semi-arid regions and other isolated areas away from conventional electric grid. The photovoltaic conversion of solar energy directly into electricity is an area of great significance. The use of photovoltaic panels and cells has already been demonstrated for such applications as pumping water, lighting, T.V. and radio, communication etc. The major barrier in the large scale utilisation of photovoltaic systems is, however, their high initial capital cost. Special emphasis has been given to bring down the cost by way of improving efficiencies, technologies, and mass-scale production of solar cells.

The utilization of solar energy can help in solving social, economic and environmental problems by preserving the forests, stopping or slowing down migration of rural population to urban areas, making available communication and entertainment facilities and by increasing agricultural productivity. The widespread use of solar energy is expected to reduce or eliminate the dependence of villages on traditional sources of energy being used for centuries. □

(Continued from Page 7)

irrigation of plantations on hill slopes. This will also save power generated from big projects for urban consumption and other areas.

Women's lot

The development plans implemented so far—construction of roads and opening of schools—have adversely affected the life of the women. The burden of family work has increased. The decease in self-sufficiency and the increasing demand for money has encouraged menfolk to go out in search of employment.

School education makes hill boys useless for the hard life of the hills. As a result of this the whole burden of agriculture, household, animal husbandry and looking after the children and the old, falls on the shoulders of the women. Availability of fodder, fuel and water, facilities for dehusking, grinding and cooking will help in lessening their burden. A village development plan prepared by the women will be more practical.

One of the shortfalls of plans uptil now has been the neglect of local traditions. Local wisdom and traditions should be given top priority.

The utilmate objective of the plan should be to create self-confidence in the people through self-sufficiency. Self-confidence is the primary need of hill development. For this the planners should find time to live with the local people and share their struggle for life. From the combination of their knowledge and the wisdom of the hillfolk will emerge a practical solution to the problems of the hills.

Success Stories

Hard work pays

Sundaramurthy of Poondiankuppam village of South Arcot District is a small farmer. He had 5 acres of dry land. It was fortunate that Sundaramurthy came under the Agricultural Development Branch of Cuddalore Old town. With the timely assistance coming from the bank, he concentrated on growing groundnut. We made up the deficiency of the soil on the advice of the agriculture department. TMV 7 seeds (of 100 days duration) of groundnut was sown. The borewell gave the field the much needed water. With all this he got 4886 kg. dry weight of groundnut per hectare. This record production placed him second in Tamil Nadu in per hectare groundnut yield. He will also get Rs. 3000 as cash award.

V. Govindaswamy,
Field Publicity Officer,
Pondicherry.

Hindus maintain Muslim Tomb

Abdullian is a tiny border village in R. S. Pura Sector of Jammu district in J & K. The previous population, mostly Muslims, has migrated and now the village consists of 80 houses of Hindu Jats.

The village contains the tomb of a Muslim Saint. It is being properly maintained and looked after by the Hindu population. Shri Bhola Ram, the Naid Sarpanch who is about 80 years old, said that the tomb is visited by all on Thursday evenings. It attracts a very large crowd during the annual festival (Urs) when a fair is also held. That day presents a wonderful scene of communal harmony and brotherhood.

Interestingly, the village has no temple so far, despite its purely Hindu population.

(FPO-Jammu)

Welfare of Tribal Women

Balaji Mahila Mandali of Proddatur Block of Cuddapah district in Andhra is unique in many ways. The 15 members of the Mandali and their president Smt. Y. Nagaratnamma belong to the Scheduled Tribe called Erukula. The Mahila Mandali has been very active in uplifting the Scheduled Tribe women and involving them in the rural development schemes. Each member of the Mahila Mandali obtained a loan of Rs. 1000, a subsidy of Rs. 200 from the Women Welfare Department and Rs. 330 from the IRDP funds. With this amount they started Comb making and garments making. Now they have also started keeping milch animals and pigs. The Mahila Mandali is concentrating on helping the deserted and destitute among the Scheduled Tribe women. In all these activities, they are guided by the lady Village Development Officer working in Proddatur Panchayat Samithi Block.

(FPO-Cuddapah)

A Case Study

What helps plan family

T. Jaya Raj

Fertility knowledge is indeed fertility control. Population education is relatively a 'safe' and 'sweet' way to reduce the population growth. The Government must introduce the population education in school and college educational syllabi from fourth standard onwards, says the author.

FAMILY PLANNING is not synonymous with birth control. In a broader sense family planning is concerned with quality of life. In the context of family health, it is a way of helping families to be healthier and happier. With family planning pregnancies can be spaced.

The main object of the present study was to collect information regarding knowledge, attitude and practice of family planning among the respondents or the spouses in the reproductive age group in the Vilavancode village in Kanyakumari distinct of Tamil Nadu. The study also analysis the socio-economic status and demographic characteristic of the respondents

Methodology

The survey was conducted in a randomly selected 100 households—i.e., 14 per cent of the total households in village. The prescribed schedule was filled in by all the currently married male members residing in the house and having spouses below 45 years of age, or husbands of currently married women, aged below 50. The schedule was designed in such a way as to suit the various socio-economic and demographic characteristics of the respondents, knowledge of population problem practice of family planning and the knowledge about abortion method. The sample survey was conducted last year.

Demographic features

The sample covered 86.0 per cent literates and 14.0 per cent illiterates. Among the 100 respondents, 51 respondents belonged to Hindu religion and the others were Christians.

Occupational levels of the respondents showed that 31 respondents were agricultural labourers and the others belonged to non-agricultural sector category. The survey also revealed that 40 per cent of the respondents earned a monthly income of below Rs. 500, the rest above Rs. 500.

The salient demographic characteristics of the respondents were relatively high fertility and low mortality. Of the 100 respondents 55 had less than three children and others had more than this figure.

The survey revealed that all the respondents were found to have some knowledge of family planning. An analysis of the replies showed that all of them had the knowledge of the following three family planning methods : (i) Nirodh, (ii) Vasectomy, and (iii) Tubectomy. Only a few respondents had the knowledge of other family planning methods.

Desire for children

The desire for children on the part of the parents or would be parents is one of the important factors influencing the fertility of a population. Any change in desire for children is bound to affect the actual level of fertility. It is, therefore, important to find out the attitude of people towards family limitation.

The following tables clearly indicate the attitudes of the respondents towards family planning as influenced by religion, economic status, occupation, education and number of living children.

TABLE I

Religion and family planning attitude

Religion	No. of Respondents	In favour	Not in favour
Hindu	51	43 (83.31)	8 (15.69)
Christian	49	40 (82.04)	9 (17.96)

Figures in parenthesis show percentage.

TABLE II

Economic Status and attitudes towards family planning

Monthly Income	No. of respondents	In favour	Not in favour
Less than Rs. 500	40	32 (80)	80 (20)
Rs. 500—750	24	19 (77.80)	5 (22.14)
Rs. 750—1000	16	14 (87.5)	2 (12.5)
Above Rs. 1000	20	18 (90)	2 (10)

Figures in parenthesis show percentage.

TABLE III

Educational level and attitude towards family planning

Education of the Respondents	No. of respondents	In favour	Not in favour
Illiterate	14	9 (64.28)	5
Literate (able to read and write) . . .	13	9 (69.23)	4
5 years of Schooling	17	15 (88.24)	2
5—8 years of Schooling	10	8 (80)	2
SSLA level	28	25 (89.28)	3
PUC level	3	3 (100)	0
Graduate and P.G. .	15	14 (93.33)	1

Figures in parenthesis show percentage.

TABLE IV

Respondents occupation and attitude towards family planning

Occupation of the Respondent	Total No. of respondents	In favour	Not in favour
Agricultural labourers .	31	24 (77.3)	7
Agriculturists .	9	6 (66.6)	3
Teaching Staff . .	8	8 (100)	0
High and middle grade Govt. workers .	27	26 (92.7)	1
Low grade Govt. servants	14	11 (78.5)	3
Businessmen . .	3	2 (66.6)	1
Others	8	6 (75)	2

Figures in parenthesis show percentage.

TABLE V

Number of living children and attitude towards family planning

No. of living children	No. of respondents	In favour	Not in favour
0	4	3 (75)	1 (25)
1	5	4 (80)	1 (20)
2	21	21 (100)	—0—
3	25	22 (88)	3 (12)
4	12	8 (66.67)	4 (33.33)
Above 5	33	25 (75.55)	8 (24.25)

Figures in parenthesis show percentage.

From the Table I to V it is evident that among th 100 respondents 83 respondents desired small famil and also approved family welfare programme. In crease in age and educational status of respondent are seen to be two factors contributing to the awa reness of the family planning.

Practice of family plannin

The ultimate objective of family planning in th country is to reduce the birth rate from 39 per 100 of population in 1970 to 25 by 1984. For this pur pose 33 to 45 per cent of the reproductive couple will have to be protected from the risk of conceptio during the period.

The question of practising family planning method arises only when the persons know of such methods Hence the percentages are worked out on the basis of the number of persons who know each method The following table indicates the measures of famil planning methods among the 100 respondents of th Vilavancode village.

TABLE VI

Awareness practice of family planning methods

Sl. No.	Family planning methods	No. of persons knowing F.P. methods	Total No. of persons practising F.P. methods
1	Condom	100	15 (15)
2	I.U.D.	28	—
3	Oral Pills . . .	57	4 (7.02)
4	Foam Tablets . .	13	—
5	Safe period . . .	34	10 (29.42)
6	Withdrawal . . .	43	—
7	Jelly/cream . . .	8	—
8	Vasectomy . . .	100	—
9	Abstinence . . .	19	3 (15.79)
10	Tubectomy . . .	100	13 (13)
11	Laparoscopy . . .	8	—

Figures in parenthesis show percentage.

From Table VI it is evident that 15 per cent of the respondents were found to be using nirodh. It seemed to be the most acceptable method of family planning. Four respondents used oral pills; 10 respondents relied on safe period, three respondents practised abstinence and 13 wives of the respondents had undergone sterilisation (i.e. Tubectomy).

An analysis of the replies of the respondents revealed that most of them (73 per cent) had disapproved abortions 16 per cent had approved and other respondents have no idea about abortion.

Recommendations

It can be said that respondents were generally in favour of family planning and, if properly motivated, all couples who require family planning can be brought under fold.

In the light of my knowledge and the suggestions received from the respondents, I can make the following recommendations for improving the family planning programme.

Government must introduce the population education in school and college educational syllabi from fourth standard onwards.

"A satisfied user is the best propagator". An association of satisfied acceptors of family planning may be formed in each Panchayat to discuss and solve their own problems and to popularise the family welfare programmes among non-acceptors.

A family planning education officer at district level must be appointed by the Government to propagate the message. For contacting newly married couples their names should be registered in a particular centre. The role of voluntary organisations should be revitalised by extending financial assistance for expanding their scope to include family welfare activities. The active involvement of local religious and political leaders should be ensured.

Recanalisation facilities should be provided in all major hospitals and the fact must be given wide publicity. □

Achievements of Kerala Civil Supplies Corporation

THE KERALA STATE Civil Supplies Corporation has recorded a marked improvement in its efforts to make available the essential goods and services at the lowest possible price throughout the State, since its inception in 1974.

The Corporation trades in 18 groups of essential commodities including rice, wheat products, pulses, green gram, tur dal, black gram, spices, chillies, coriander, vegetables, sugar, tea, coffee, cement, petroleum products and certain other commodities.

Through its wholesale and retail operations including festival markets, tht Corporation has successfully held the priceline, particularly during the festival seasons of Onam, Christmas, etc. when the prices tend to shoot up over normal prices. With the Corporation's successful participation during festivities prices are maintained and in some cases brought below normal. This has also resulted in stopping wide fluctuations in prices so much so that undue profiteering has been largely eliminated.

A big expansion underway

For the Corporation with such a good record of performance, there is no looking back. And that is exactly what it has planned to do—with scores of new programmes and projects for the benefit of the common man. As an important step in streamlining its operations the Corporation plans to build up its own central godown and office complex at Gandhinagar, Ernakulam. A Rs. 50 lakh multi-storey building will house the administrative departments and the central godown. Besides, a number of people-oriented schemes on the anvil are: processing units, including a rice mill at an estimated cost of Rs. 1 crore and a wheat roller flour mill of 100 tonnes capacity; a Rs. 40 lakh factory for the manufacture of biscuits and similar food products; and self-employment scheme for Scheduled Castes|Scheduled Tribes intended to provide employment to about 200 persons—two each for a Maveli store—who will be provided with a cycle each for door-to-door delivery of essential goods. Other schemes include Mobile Maveli stores—3 specially converted buses for three major cities to supply essential commodities to the consumer; a floating Maveli Store to cater to the consumers of the water-logged areas such as Kuttanand; marketing complex in Corporation areas on the line of Super Market (Bazar) to sell a wide variety of products under one roof; an institute of Supply Management—a training centre to impart training to the staff and to other consultancy services; a comprehensive scheme for staff welfare including housing, recreation centres, promotion of sports and games, medical service, etc., and Civil Supplies Complexes in all talukas—these would include Taluk Supply Offices, storage facilitics, bankig services, etc to offer better and prompt services to consumers.

Performance

The Corporation, started with a-paid-up capital of Rs. 1.71 crores, is wholly owned by the Government of Kerala. Its performance over the years has been remarkably successful. Its annual turnover during 1982-83 was Rs. 118 crores as against a turn over of Rs. 94.13 crores in 1980-81, and Rs. 10.58 crores in 1978-79. During a period of five years i.e. 1979-82, the Corporation has thus made substantial progress. The profits made during that period have helped wipe out all previous losses which were more than the paid-up capital.

The Corporation has been able to provide employment to over 1000 persons during its short span of existence. It was started with about 40 hands. □

Diffusion of technology

Chandrakant Bhatt

n whatever way the technology was taken o rural areas, it should be remembered that he simple over the complex, the low cost ver the high cost should be chosen. The evices introduced should be sturdy, with ow maintenance cost and easy to operate. Diffusion of technology on such broadline ould contribute much in changing the rural cene.

APPLICATION OF FARM and non-farm tech-logies in rural areas call for integrated approach as to create employment and additional income the rural people, promote faith in development ivities, faster scientific temper and progressive itudes. This transfer and diffusion of technology desired results, especially to lessen burden on id, could be achieved through appropriate plan-ng and development. Once this process gets momen-n diversification of industries, agro-based in nature, uld come up soon.

Relevance of technology

It is said that technology should have human face, at is, it should be relevant to the needs of the ople. It should also be relevant to their skills, piratons and perceptions, conforming to their hos, culture and what not. What do we find in our ral areas ? The state of pattern prevailing now tells that the rural people, the greater portion in the ckward and remote areas, are underemployed or tally unemployed and during occasional work, their oductivity is exceedingly very low. Some of them ve land but too little to sustain a family of five, e average unit. Many of them have no land. It is gh time that a determined effort was made to take odern science and technology to the doorsteps of a an in the village so as to withdraw too many on o little a source like land.

Technology for rural areas

This would lead us to a question as to what type of technology should be taken to the rural areas? This should not mean that technology should be primitive or of yesterday. The efforts need not be confined to relative simple one and import-techno-logy in the high technology areas. It would be ap-propriate to have mixure of small, medium and large scale technology consistent with long-term interest. The combination should be such as may result in enhanced production and best productive use of man-power.

Over the years, the country has built up a vast infrastructure of research institutions, some doing specialised work in technologies related to rural areas. Here mention could be made of the Indian Council of Agricultural Research (ICAR) and the Council of Scientific and Industrial Research. Unfor-tunately the transmission process is not as smooth as it aught to be. To make this process reach the rural areas effectively, the Council for Advancement of Rural Technology (CART) is doing work. How-ever here also much remains to be done to transmit technology to the remote areas as our planning body so often points out.

The growth and development of Gober gas plants and Dairy Development in Gujarat, to cite an example, have amply demostrated that given the modern tools and technology, the rural people have the native intelligence to make most effective use of it. This has also shown that the moral and motivation of the rural people can be substantially boosted up by trans-fer of appropriate technology.

Role of big business in rural development

It is in this context that the concern of big business houses in modernising and developing rural areas is found desirable.

In whatever way the technology was taken to rural areas, it should be remembered that the simple over the complex, the low-cost over the high cost, should be chosen. The devices introduced should be study, with low maintenance cost and easy to operate. Diffusion of technology on this broadline could con-tribute much in changing the rural scene.

BOOKS

An Illustrious son of Gujarat

Tribute to Ethics : Remembering Kasturbhai Lalbhai. Gujarat Chamber of Commerce and Industry, Ahmedabad, 1983. Pages 278.

KASTURBHAI was an illustrious son of Gujarat and an architect of Indian Industry. A remarkable man by any standards; and not an easy man to know; but one whose soul judgement and a peculiar kind of cautious darining contributed very substantially to the expansion of business and education in Gujarat. As the eye travels over the buildings of the Gujarat University campus and rests gratefully on the many trees that shade its roads, the mind remembers a man who created institutions to develop and train the mental powers of the generations to come. And these constitute his most befitting epitaph.

The book, under review, is neither a chronicle of Kasturbhai's life nor a biography. It provides flashes of various facets of his personality and assessement of his accomplishments by his contemporaries. The essays presenting these assessments are written by some of the most prominent persons in various walks of life who had come in close personal contact with him. Supplementing these essays are selections from Kasturbhai's writings and speeches.

This commemoration volume, under review, is divided into eight chapters, in two languages, four in English and four in Gujarati It is brought out by the Gujarat Chamber of Commerce and Industry in the memory of their founder President, Kasturibhai Lalbhai.

Kasturbhai's pragmatic approach to the problems of industry and commerce was legendary and it used to be held in high esteem in the highest quarters of the country. Prime Minister Indira Gandhi rightly observed in her message—" Shri Kasturbhai Lalbhai was a man with varied interests. He was known to work hard and with concern for the economic development of our country. Begining with the textile industry, his interests spread to a wide range of modern industries including dyes, chemicals and pharmaceuticals. He also contributed to educational, cultural and charitable institutions and particularly noteworthy was his devoted work in times of natural calamities."

Get up is good. Visual perspective—thirty four photographs—adds to its value of reference.

S. K. Dhawan

Hiren Mukherjee on Bulgaria

In Dimitrov's Footsteps : Study Of Socialist Bulgaria by Hiren Mukherjee; pp 135; price Rs. 60: Vision Books.

HERE is a book by a distinguished public man on a subject he obviously loves—the transformation of Bulgaria. He has already published a study of George Dimitrov, the father of modern Bulgaria whose mummified body lies in an underground tomb in Sofia and is what can be best described as the Rajghat of the Bulgarian capital.

Dimitrov set out to achieve in 15 to 20 years what other nations have taken much longer to build up The result is a modern nation, dynamic and pulsating with life. Bulgaria today, is not merely an industrialised country, but is also blessed with the munificence of nature in its lovely holiday resorts and lush-green farms. It has found an able exponent of its achievements in Professor Mukherjee, whose rhetoric was a by-word in the Lok Sabha which he served with distinction for twentyfive uninterrupted years Dimitrov's legacy has been passed on to Todor Zhivkov, a dedeciated nation-builder. The writer displays a perceptive and an analytical mind in bringing out the mentamorphosis that has taken place since the death of Dimitrov, Pro. Mukherjee has delved deep into Bulgaria's socialist history and the volume, despite its small size, is rich in references to the politico-economic policies and the manner in which they were shaped Altogether, a useful book, not merely for students of history, but also for students of socialism.

S. Prasad

Indian Culture

A Panorama of Indian Culture by Dr. (Mrs.) Prabha Chopra (1983) Publications Division, New Delhi.

THE BOOK disseminates a variety of information of India's composite social and cultural aspects covering zone-wise all States and Union Territories in its historic perspectives. The information contained is authentic and provides a peep into the rich cultural heritage of the country with precise details of each region with its flora and fauna. A close scrutiny of the book reveals diverse customs, manners, dress, diet, games, festivals, music, religions, languages, dances, drama art, literature, demography, etc, of the people of each province of the country depicting very well their multi-racial and multi-lingual character thus maintaining the unity in their diversity.

Written in simple and lucid style the book is fully illustrated and is designed to take its message to the school going children. The element of wit and humour with a clarity of diction is very much therein.

The book is in the form of an interesting dialogue between a group of school pupils and their teacher, who conducts them to an exhibition on India and explains to them what is what in each of the pavilions of all the States/Union Territories by answering their respective queries. In short, it is a handbook of information for students of all categories.

M. Yunus Siddiqui

International Youth Year—1985

A CALENDAR OF events has been drawn up to observe The International Youth Year—1985 (IYY) as declared by the UN General Assembly in its 34th session.

The events include, among other things, celebration of National Youth Day, National Youth Week, holding of National as well as Asian Regional Seminars, organisation of National Integration Camps, National Exhibitions and National Sports Festivals in various parts of the country. There is also a provision for starting a National Youth Award Scheme.

Publication of compendium of Youth Activities, issuing of Commemorative Stamps and Coins will mark the celebrations of the year.

The states are also being, requested to take steps for the implementation of the programmes and the identification and formulation of new Schemes which would fit in with the overall objectives of the three themes of IYY—'Participation, Development and Peace'. ☐

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The Indian odyssey in space

THE JOINT Indo-Soviet Manned Space Mission, launched successfully recently, may become a turning point in India's space programme which has hitherto been limited to unmanned mission only. The launching of Soyuz T-II with Squadron Leader Rakesh Sharma and his two Soviet companions has marked the culmination of more than two years of hectic preparations. The venture was an off-shoot of more than two decades of collaboration between India and the Soviet Union in space science. It was on November 21, 1963 that a small two-stage rocket was launched from the Thumba Equitorial Rocket Launching Station in Kerala.

The scientific instruments available abroad Salyut-7, the orbiting Soviet Space Station, with which Soyuz-T-II docked, could be used for experiments in material sciences, biology, medicine, astrophysics, meteorology and remote sensing. The experiments carried out during the mission related to bio-medical studies, e.g. studies on the formation and properties of metal alloys in weightless condition of space, and experiments on remote sensing.

An interesting feature of the Indo-Soviet flight was application of Yoga exercises by Indian cosmonaut Rakesh Sharma alongwith other conventional isometric exercises by the two companion Soviet cosmonauts in mitigating space sickness. Another experiment carried by Rakesh Sharma on board Salyut-7 involved melting and resolidification of silver-germanium alloys.

For remote sensing experiments, they carried a specially designed camera to photograph the Indian landmass. The photographs could be useful in developing photo interpretation techniques in forestry, land use mapping, cartography, oceanography and geology. Besides, they would be of help in locating natural resources such as underground reservoirs of water, oil, gas and minerals.

Another highlight of the flight was the inclusion of some typical Indian food preparations in the diet of cosmonauts in addition to the standard diet prescribed for them.

Preliminary results of medical tests on cosmonauts carried out after their return to earth have revealed that man can live and work in zero-gravity conditions for months without any major problems. Manned space colonies, after all, may not remain a distant dream any more.

The idea of a joint Indo-Soviet manned space flight was first broached during the visit of late Soviet President Leonid Brezhnev to India in December, 1980. Formal acceptance of the proposal was conveyed to the Soviet Union a year later. Two Air Force Pilots—Wing Commander Ravish Malhotra and Squadron Leader Rakesh Sharma—were selected out of 150 candidates in September, 1982. They underwent training at the Yuri Gagrain Centre in Star City, near Moscow. Rakesh Sharma was selected finally as the first Indian to be in space.

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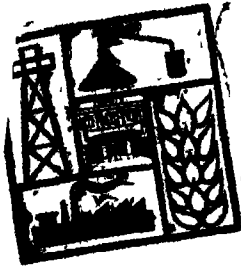
The concept of well-being

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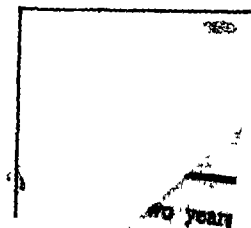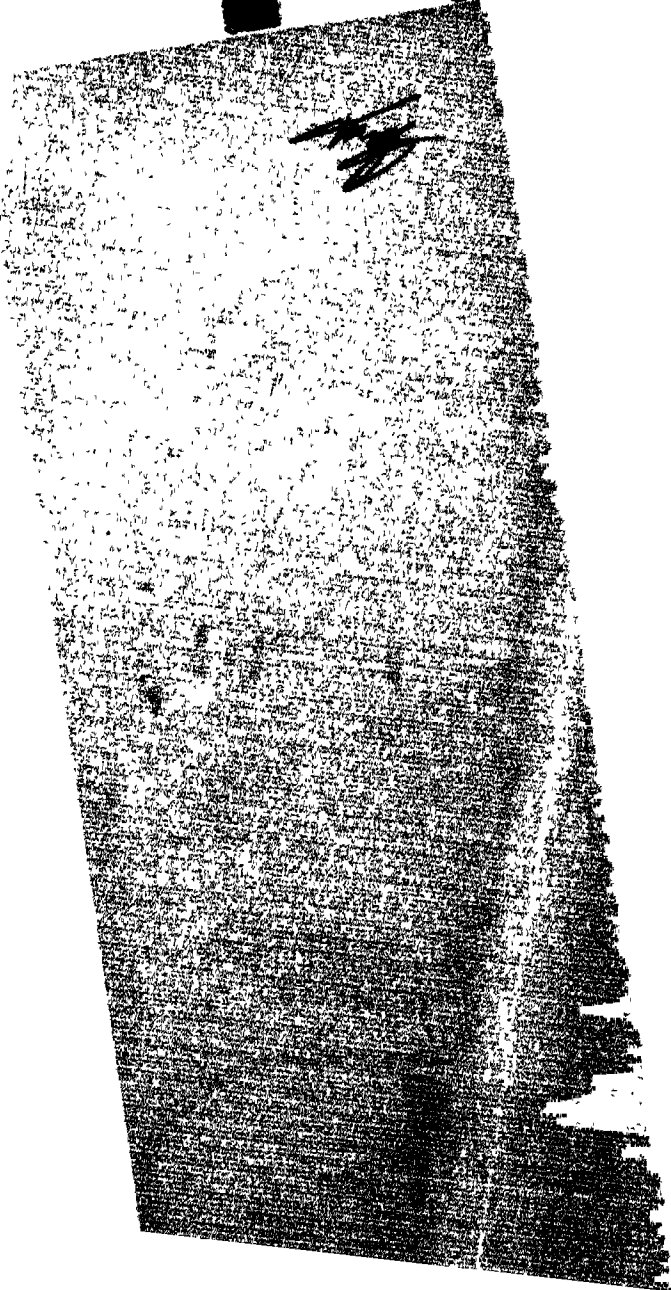
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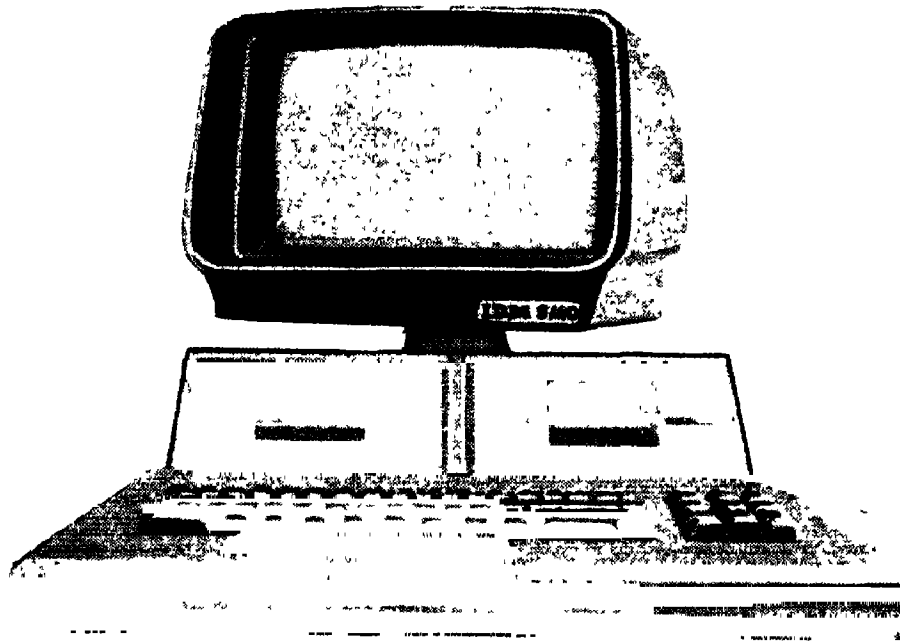
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Our Contributors

Amartya Sen-Drummond Professor of Political Economy, Oxford University, England; **Dr. V. K. R. V. Rao**—National Professor, Bangalore; **Mohan Bhatia**—Documentation Officer, Centre for Studies in Science Policy, Jawaharlal Nehru University, New Delhi; **P. R. Dubhashi**—Director, Indian Institute of Public Administration, New Delhi; **P. K. Sahoo, P. R. Soni & T. V. Rajan**—Department of Metallurgical Engineering, Malviya Regional Engineering College, Jaipur; **N. R. Hota**—I.A.S. official, New Delhi, and **Capt. G. S. Sen**—Indian Navy, New Delhi.

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The concept of well-being

Amartya Sen

If the notion of well-being is related to functioning-achievements and positive freedom, many economic issues come to fore that have been typically neglected in theoretical discussions as well as in practical debates on policy. A proper conceptualization of well-being is an important part of welfare economics. It is not just a theoretical exercise, says the author.

WHAT ARE THE foundations of welfare economics, viz., how to conceptualize the idea of well-being on which the rest of welfare economics depends? I argue that the two approaches to this question that are dominant in the literature of economic theory are both fundamentally inadequate. One approach identifies well-being with utility, and the other sees well-being as some idea of opulence. The former concentrates on mental reactions, while the latter focuses on commodities, incomes and other indicators of prosperity.

The "utility approach" makes well-being an oddly subjective notion. This is not only methodologically defective, it can also be very misleading for policy and action, because of the bias that is introduced by the mental scale of happiness or desire fulfilment.

The absence of unhappiness, and the lack of a strong desire for a better life, on the part of a deprived person, may often reflect nothing other than a defeatist compromise with a harsh reality. The exploited landless labourer, the insecure share-cropper, the overworked domestic servant, the abused housewife, may all come to terms with their respective predicaments in such a way that grievance and discontent are submerged in the necessity of uneventful survival.

The deprivations are muffled and muted in the scale of utilities. Discontent and disutility would not be tragedy in these circumstances, but a part of a creative reappraisal.

Inadequacy of opulence approach

The other traditional approach—that of "opulence"—concentrates on the commodities a person owns and on how prosperous he or she is. This avoids the subjectivism of the "utility approach", but it is alienated from people and their features other than possession.

While goods and services are valuable, they are not valuable in themselves. Their value rests on what they can do for people, or—more accurately what people can do with them. In its lack of interest in human beings, the opulence approach suffers from what Marx had called "commodity fetishism".

While the opulence approach is less fashionable among welfare economists (who are typically more influenced by the "utility approach"), the focusing on economic prosperity, commodity holdings, and opulence, is very common indeed among practical policy makers and planners. As a result, people often end up taking a back seat with goods getting all the attention and glory.

The basis of welfare economics should be, it can be argued, some idea of well-being that is neither incurably subjective (as utility has to be), nor firmly fetishist (as the focusing on commodities as such is bound to be). There are really two different notions that ask for our attention as proper concepts of well-being. One is that of "functioning" of a person—how does he or she live, what are the various things that the person succeeds in doing, etc. This is, of course, a *bundle* of diverse personal achievements rather than *one* number (like "utility" or "real income"). But a bundle of achievements can be converted into a numerical index, if and when such a simple measure is needed.

What is positive freedom ?

The second idea—closely related to the first—is that of freedom, concentrating not only on what a person *does* do, but what are the various things that he or she *can* do. The capability to function is freedom in a "positive" sense—a sense that has been rather under attack in political philosophy under the influence of liberation traditions, which emphasize "negative" freedom (absence of restraint).

But positive freedom, it can be argued, has strong claims to being the right approach to a person's over-all advantage. The focusing on positive freedom, in fact, does have a rather distinguished lineage.

In the economic context, support for that perspective can be found in the writings of Adam Smith, on the one hand, and Karl Marx, on the other. Both of them were ultimately concerned with judging advantage in terms of positive freedom—what a person can do, can achieve, can experience. I believe that this is indeed the natural direction to go in the economic analysis of well-being and the social assessment of progress.

Functioning-achievements perspective

Some of the recent practical debates on policy issues in India as well as elsewhere—become easier to assess once the perspective of functioning—achievements is adopted, and positive freedom is valued as the crucial criterion of assessment. Take, for example, nutritional matters. Rather than concentrating on food intake figures only, it is important to work on direct observation of nutritional achievements, and this can be used both to assess general progress as well as for measuring inequalities between classes, income groups, regions, and sexes.

The high level of discrimination against women vis-a-vis men, and against girls vis-a-vis boys, in India in matters of nutrition can be examined more effectively with direct nutritional data rather than through attempts at using food intake statistics. It is very difficult to measure who eats precisely how much within the family, and attempts at observation tends to distort the pattern to be observed. But quite aside from this informational problem, it makes more sense anyway to examine nutritional status as such rather than food intakes, since intake figures are not themselves crucially important and have value only because of their impact on nutrition. That impact varies with a variety of parameters, e.g., metabolic rates, body size, pregnancy, maternity, etc.

The perspective of positive freedom suggests that we should pay direct attention to the ability to live without nutritional deficiency. Nutritional statistics should be part of standard welfare economics.

A summary of the First Silver Jubilee, Lecture of the Institute of Economic Growth, Delhi University, delivered recently by the author.

Another related issue concerns the basic ability to live rather than dying prematurely. This indicates that we should not only examine such information as life expectancy at different ages, mortality rates, morbidity, etc., as part of standard welfare analysis, but also pay attention to other indicators of social inequality related to these matters.

One such issue—crucial to any analysis of social well-being—is the so-called sex ratio giving the ratio of women to men in the population, reflecting (among other things) the relative changes of survival of women vis-a-vis men. The sex ratio tends to be around 1.05 or 1.06, in the rich countries, since women seem to have a biological advantage in survival. But in India this ratio is not only below 1.00 it has fallen from 0.972 at the turn of the century to only 0.935 now. This is about the lowest that can be observed anywhere in the world.

The sex ratio even in other poor countries are substantially higher, e.g., 0.96 in China and in South West Asia, 0.99 in Latin America, 1.01 in South East Asia, and 1.02 in Africa. The African women have—relatively speaking—a much better deal vis-a-vis men than Indian women, at least as far as life-and-death questions are concerned.

If the notion of well-being is related to functioning achievements and positive freedom, many economic issues come to prominence that have been typically neglected in theoretical discussions as well as in practical debates on policy. A proper conceptualization of well-being is an important part of welfare economics, but it is not just a theoretical exercise. It also has great practical relevance. Ultimately, practice draws its sustenance from theory.

Godmakers of Kishori

THREE GENERATIONS ago, the residents of Kishori village in Alwar District of Rajasthan discovered that the stone they quarried and sold for a livelihood, brought in more money if they chiselled it into sculpture. With calender pictures of gods and goddesses to inspire them, they took to idol-carving.

As their skills developed, they gave the iron-ore laden stone of their own village quarries and began "importing" the famous "Taj Mahal" marble from Makrana in Nagaur district, 200 kilometres away. The stone facilitated the sculpting of better statues, but it needed money to buy—and thus the middleman stepped in.

However two years ago, the State Bank of India, entered the picture and offered to help to those craftsmen who were keen to remain artisans. Each family was given Rs. 7,500 repayable in 36 easy instalments, to buy marble directly from Makrana. And their effort began to match their hopes.

Today, most of the 125 families living in Kishori are god-makers. But their own god is the State Bank of India, whose unsecured loans for material and tools enabled them to eliminate exploitation, and build a happy new future for themselves. □

The new approach to Indian planning-II

V.K.R.V. Rao

Our basic values have to be interwoven and inter-linked with the planning process. The objective of planning and national effort should be to integrate our value heritage into the growth structure and growth process, says the eminent economist.

EVERY ONE IS agreed that a major cause of the nation's slow economic growth and the increasing capital output ratio is the inability shown in making full and effective use of the resources in equipment already in existence in completed form (and in some cases in partially completed form) either by inadequate attention to operational efficiency or full utilisation of existing capacity. And yet there is a long-standing bias in our investment planning in favour of creating new capacity rather than getting the maximum results from existing capacity.

There is, of course, a rationale behind this bias, as planning is a continuous process and cannot be split up into self-contained five-year periods; and the long period is only a series of short periods integrated for continuity and avoidance of breakdowns and bottlenecks and slippage of linkages. That is why we have a Perspective Plan that figures in the Five Year Plan Reports, which constitutes the justification for new investments that, by definition, would be infructuous during the Plan period for which the outlay is proposed.

Maximum utilisation of capacity

While I am all for not ignoring the future, it is also necessary to remember the present, especially if we want public support and participation in planned development. It is necessary, therefore, to give high priority in investment outlay to maximising the efficiency of existing equipment, full utilisation of unutilised capacity, and completion of projects which have works in progress.

In the balance of the investment outlay, priority should be given to the quick maturing projects rather than to those of long gestation periods. Among the latter, as well as among the former which were mentioned earlier, high priority should be given to the infra-structural sector such as coal, power, steel, railways, communication and cement, and to the wage goods sectors like agriculture, with its foodgrains, pulses, oilseeds, fruits and vegetables, clothing, housing, and other consumer goods, and relevant inputs like irrigation, drainage, dry farming technology, fertilisers, pesticides, and seed of high yielding varieties.

The investment pattern given in the Plan should outline its composition in the manner mentioned together with anticipated physical results in terms of goods and services. The mid-term appraisal should follow the same pattern, which would assist both the Commission and the reader to arrive at a better evaluation of the working of the plan.

Decentralisation and participation

The plan should also make special mention of the strategy proposed for its implementation, taking account of previous experience in Plan implementation and new knowledge acquired from advances in management technology and the experience of other countries faced with similar developmental problems. Decentralisation and participation are two areas which play a special role in securing efficiency in implementation. I would content myself with a few summary observations on the subject. These are:

Planning bodies with status and function similar to those of the Planning Commission in Yojana Bhavan should be set up in all the States and Union Territories; and Plan formulation, annual plans, projects monitoring, evaluation, and mid-term appraisal should become the joint responsibility of the Union and State Planning Commissions, and the work involved shared between them.

After completing their formulation of the federal and State plans, the respective Planning

Commissions should devote the rest of their time to monitoring implementation, identifying bottlenecks, gaps, wastes, inflationary impacts, and evaluating progress in development, with freedom to suggest re-adjustments and changes in priorities and outlays needed for implementation of the major and more high priority targets set out in the Plan.

Gram Sabhas should be set up at the village level, which should consist of all adults resident in the village and meeting in full assembly not less than 3 times in a year. These village assemblies should have no executive duties or financial powers, but should function as sounding boards for the relevance of plan programmes to their needs, the extent of implementation, the difficulties encountered in seeking full implementation, and what the villagers themselves can do to maximise the speed and efficiency of implementation by their co-operation and participation.

The administrative unit for local planning should be at the block level with necessary provision for finance, technical expertise, and administrative coordination, with the Block evel officer instituting a two-way dialogue vith an elected body like the block level panchayat for guidance in formulating the block plan, reporting to it on progress in mplementation, and seeking its cooperation ind participation in dealing with the difficulties faced in implementation.

ext higher unit in the hierarchy of planning mits should be the district development officer (whose status and authority for both pending and coordination should be similar o that of the District Collector) and the Zilla Parishad which would be an elected body representative of the district as a whole n addition to special representation for the block level panchayats in the district. The relations between the DDO and the Zilla Parishad would be similar to those between he B.L.O. and the Block Panchayat.

ext higher authority should be a composite mit, that will include the State Planning Commission, the State Cabinet, the State egislature, the State level bureaucracy, and he State Development Commissioner, who should also have the powers of the Chief Secretary in respect of development coordination. There should be no intermediate body between the State and district planning authorities in respect of either plan formulation or expenditure or implementation. I m therefore totally opposed to the recent suggestion published by the Economic Advisory Council to the Prime Minister for setting up of an intermediate authority at the Divisional level. In my opinion such a divisional authority would be a fifth wheel n the coach of Planning Administration and would only bring in more of the tardiness bureaucratic hurdles, and lack of popular cooperation, participation and administrative coordination that is being deplored so much today in plan implementation.

Human factor in development

The next suggestion I would make in my new Approach or New Directions to Indian Planning is in regard to the human factor in development. It is well known that the largest resource potential we have is our labour force. It is equally well known that its development is most inadequate, and largely skewed to the extent that it has been developed. It is true that it has brought the country a rich dividend in non-resident Indian remittances by the new export industry of scientific, technological, professional and skilled workers both to the developed and developing countries.

This human export industry, which in earlier days would have been deplored as a brain drain, is now hailed by people both in authority or otherwise and even receiving official incentives. This is because of the foreign exchange receipts it brings and, incidentally, the alibi it provides for lack of success in securing balance of trade in our commercial transactions. I would have been less dissatisfied with the skewed development of the human factor that has made this possible, if it had been used for domestic development and increased production of goods and services for the domestic market, which, in all conscience, we badly need in this country of low economic growth and low per capita national income.

For a vast country like India, expanding domestic market and increasing domestic production for domestic consumption is much the best way of spreading up the rate of economic growth and maximising the country's national welfare than to pin so much hope on export promotion and giving subsidies or other incentives for doing so. Of course we need some exports to get the foreign exchange necessary for financing our import needs of development, essential consumption, and foreign debt servicing. But these constitute only a marginal part of the resources needed for both these purposes.

Domestic resource potential

Of this the much larger part can be had from the full utilisation of our domestic resource potential for domestic production, for domestic consumption, along with import substitution, while for the smaller part, we should use only the real export surplus generated from domestic production; that will also be competitive because of the economies resulting from a large and effective domestic market. I am glad to find support for this view from such an experienced and able economic administrator, with the additional advantage of youth on his side, as Shri M. Narasimhan, in the first T. T. Krishnamachari Memorial address he recently delivered in Madras.

His main conclusion in that lecture was that enlargement of the domestic market and reduction of the cost structure are ways by which India can hope to achieve both successful import substitution and export growth, and a viable external payments position.

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Apart from the highly skewed development of our ...an resource factor, of which some part also gets to the country, the more basic failure is the inadequate use that has been made of our large human ...ential. Given good health, training in appropriate ...ts, character-building and creative-stimulating ...cation, industrial discipline, economic opportunities, adequate motivation, our human resource poten... could rapidly get fructified and result in a rate of ...nomic growth much higher than that envisaged by Planning Commission or sober non-official econo...ists who speak or write on the subject, amongst ...om I venture to include also my humble self.

...t is, therefore, that I would give high priority to integrated and nationally extended and compre...sive programme for human resource development ...he new approach to Indian planning. This should ...ng together, and in an integrated form, plan pro...mmes for education, health, family planning, women children welfare, and basic needs. I would suggest the Seventh and subsequent Plans should include ...ajor section that will deal with the outlay on human ...ource development as a whole and by its different ...ors, and policies and programmes proposed for ...ning their full potential. The Mid-term Appraisal ...uld also contain relevant data on achievements and ...acies under similar heads, so as to make it easier ...evaluate the impact of human resources develop...nt on productivity and economic growth during the ... period.

Science and technology contribution

The next item I would include in the new approach ...uld be on the role proposed for science and ...chnology in increasing productivity, import substitu...n, export promotion, and total domestic output. ...e Plan should not only deal with outlays on R & D ...d general observations on the nature of the techno...gy we should use for furthering development, but ...o give some idea of the physical targets in terms additional output that such outlays are expected lead to.

There is much talks of transfer of technology, inter...diate technology, adaption, indigenisation and ...propriate advance on imported technology, sophisti...tion versus simpler technology, and promoting ...f-reliance in technology. But there is no classified ...aluation by sectors of industrial origin, except for ...riculture, of the impact of imported technology and ...eir indigenous development and utilisation for in...ease in national productivity and output.

We all swear by science and technology and its ...portant role for India's planned economic develop...nt. Scientists and technologists enjoy a high social ...d economic status in the country; their prestige is ...h, and there is great demand for their services not ...ly within the country but also abroad in highly ...veloped countries like the USA and West Germany ...well as by international organisations.

But there is not available any concrete account, in ...antitative and classified terms of industrial origin, the contribution they have made in increasing output, ...ducing costs and bettering quality. There has been ...national or objective evaluation of the contribution of domestic, imported, and indigenised science and technology to the growth, quality, cost reduction and diversification of India's domestic output nor has any linkage been demonstrated between physical achievements and financial outlays on R & D, data being available only for the latter.

To what extent have we attained self-reliance in the technological field, in what sectors and in what crucial items? Has the D.G.T.D. dicta on the availability of indigenous technology acted as an alibi for protecting non-competitive Indian technology and preventing needed technological imports? To what extent are the public and private sectors making actual use of the technology developed in our country by its R & D work or is the bulk of this work resting on R & D shelves in view of our native prejudice or diffidence about the use of indigenously developed technology? Have we followed the Japanese example in adapting imported technology to improve it and make it competitive with the products of the very countries from whom the base technology was imported? To what extent and in what areas should we go in for the import of advanced and sophisticated technology without affecting adversely either indigenous advance or domestic employment? What precisely is the role of science and technology, domestic and imported in India's planned development? These questions need to be answered in detail; and only the Planning Commission can do it.

All that I can say is that we have to go in for advanced and sophisticated technology in the interests of India's future, including eventual and competitive self-reliance and rapid economic growth, even if it means some difficulties in the short period, in respect of employment, labour reluctance, foreign exchange constraints, and the Indian bias for a traditional and backward technology that has a survival value because of our protected market.

Need for advance technology

The rest of the world is not standing still, not only the developed world, but even the developing world of South East Asia, China, the Middle East and Latin America, if not also some parts of Africa. Further, we are an open society and cannot escape not only the economic but also the social consequences of technological development elsewhere.

If this approach is accepted, we must go in for import of really advanced technology, and not the second-hand and dependence-oriented technology from collaboration arrangements with foreign capital or multi-nationals; and this should be done by outright purchase or royalty payments and not by joint production with foreign interests. Simultaneously we have to give the best possible opportunities and facilities to our own scientists and technologists to absorb the new technology, adapt it to our local conditions, and improve upon it by their own research.

In this connection, help from non-resident Indians and persons of Indian origin resident abroad could be availed of by offering them suitable incentives, including the setting up of new science and technology centres they could service; only, care has to be taken to see that local scientists and technologists get full opportunities for participation, collaboration, and

indigenisation of the imported advanced technology, that is brought into the country.

Priority to population policy

Another item that needs emphasis in the new approach is high priority to a population policy that would effectively bring down the growth rate of our population and prevent our numbers from reaching the astronomical totals that eminent foreign demographers are forecasting. Indian planning does include a policy of family welfare that would voluntarily limit the growth of numbers, but it has not registered any markedly successful results.

I think that is because we deal with the problem in macro national terms and also give a restricted connotation to the word 'voluntary' in our population policy. For effective action on the population front, it is necessary to break-up the macro picture into component sectors with differing magnitudes of birth rates, and concentrate our strategy of arresting population growth on the areas and socio-economic classes with the highest rates of demographic growth.

Anti-poverty programmes and subsidised facilities for increasing income should be simultaneously accompanied by special emphasis on the small family norm, the need for raising the age of marriage, spacing of births and ceiling on the number of additions to the family. This should be done both by population education extension services and special, subsidised, and readily accessible availability of birth control facilities. If individuals can be identified for anti-poverty programmes in villages, there is no reason why they would not also be identified for special demographic attention by the number of their children, their fertility behaviour, and the age of marriage of their sons and daughters.

The extent to which a high rate of population growth nullifies the effect of development on per capita income and individual welfare, especially of the poorer sections of the population, should be clearly brought out through a national programme of population education through the existing large media of communication and which we propose to enlarge substantially on the T. V. front.

Motivation for population control has to be directed to individual families and women in the reproductive age group; and this cannot be done merely by concentrating on the macro-link between total population size and the dividends from national development. The cost of rearing children, giving them health, good education, and employment oriented skills should be driven home to individual families in simple and easily comprehensible language, using all the audio and visual technology available to modern communication media. Use should also be made of the traditional media for influencing individual and group behaviour such as folk songs, puppetry, stories and discourses. The number of children a family should have is no longer either an involuntary act or a matter of only individual concern.

Community's stake

The community also has a stake in limiting the number of children and it can effectively exert its influence, as has been shown by the communes in the People's Republic of China. In fact there is much that India can learn from the Chinese experience of successful family limitation, without having to adopt their social and economic system.

Incentives and disincentives have also to be used at least till such time as the degree of development reaches the stage of demographic transition, where limitation of birth becomes a tradition and a family habit. Reduction in infant mortality, nutritional and health welfare schemes for children, and women's literacy and employment programmes have all an important role in strengthening the motivation for limitation of birth. Birth control facilities should be easily accessible, made inexpensive, and accompained by proper medical after-care in case of sterilisation and IUD insertions.

Village communities in rural areas and mohalla residents in urban areas should be induced to take interest in the demographic behaviour of their members, and periodic discussions initiated on planning of their families. Community interest and assistance in neighbourhood habitats can have as much salutary influence on demographic behaviour as incentives and disincentives or mass media education.

Political will required

In a multiple society like India, where non-economic and irrational factors influence sub-groups of the population in favour of increase in numbers, it is only a strong political will and a great deal of both tact and firmness that can make family planning successful on a nationally comprehensive scale. In any case, the new approach should give a decidedly more important place to family planning in Plan programmes, not only in terms of financial outlay and physical facilities, but also of programmes and policies directed to high fertility groups and areas in the country. Continuous data should be maintained for small geographical units like blocks, villages, wards and mohallas; and appropriate educational and incentive action taken in cases of deviation from targeted reduction in birth rates.

The Indian economy just cannot afford to let population grow at its present rate or delay realisation of the small family norm. This is possible only when a micro approach on a nationally extensive scale is taken to family planning, as against the present macro approach which stops at the States and the nation as a whole.

Erosion of value system

The new approach should also take account of the erosion that has taken place in the value system in the country and what can be done to arrest this trend and, in fact, reverse it. While there are many factors behind this phenomenon, one should ask the question to what extent, if any, planned economic development has itself contributed to this decline in basic values. Have the controls, licensing, and discretionary powers given to Government at its political and bureaucratic levels in the name of planned development led to the growth of corruption, nepotism, law-avoidance, tax evasion and the proliferation of black money?

If the answer is in the affirmative—and many persons in the country would be of that view—then should we

›andon the attempt at planned development as some ›ople are beginning to suggest in muted whispers ıd closed drawing rooms? Or can we formulate a ›stem of controls that would be based on objective :iteria that would bar discretionary decisions, or ›place physical by financial controls as is being sug-›sted by some knowledgeable persons including those ı authority? Have the incentives given by Govern-›ent for better performance by industrialists, farmers, ›port promoters, small industrialists, and new entre-›eneurs led to a fallout in terms of leakages, corrup-›on, profiteering, and a mentality of dependence instead › one of self-reliance? And can we avert this fall out ›ithout affecting the accompanying increase in pro-›uction?

The pertinent questions?

In other words, can we have a system of production ıd performance incentives that will not also lead to fall in moral standards? Then again, do the produc-›on and consumption subsidies that we use in our plan-›ed development also have a fall-out effect in terms of ›eterioration in moral standards; and if so, can we ›evise a subsidy system that will serve its purpose of ›creasing production and furthering social justice which ›an be implemented in a way that will avoid such a ›ll-out?

There are eminent men of known integrity ›nd national commitment who have been talking of ›e need for freeing private enterprise from all shack-›s—they of course do not show equal enthusiasm for ›opping aid from Government—as the way, not only › maximise production, but also to restore moral ›andards.

While not doubting their honesty, have they taken ›to sufficient account the prevalent standards of busi-›ess morality, neglect of national priorities when in ›ursuit of maximising private profit or indulging in ›onsciousness among the people against the prevalent ›crease in economic inequalities?

Has nationalisation and expansion of the public ›ector to commanding heights led to a better work ›thic, greater resource mobilisation, better management ›f the national economy, and a noticeable rise in mass ›elfare? How do we fit in the public sector and ›ationalised economic activity with the ethical stan-›ards and basic values that lie behind the vision of a ›ocialist society; or have we been only dreaming when ›e identified a socialist society with maximum welfare, ›ocial justice and a self-reliant and self-accelerating ›conomy. Is the alternative of capitalist development or ›hat is euphemestically called people's capitalism, any ›etter either in maximising mass welfare or in pre-›erving ethical standards. Is a mixed economy the ›nswer and does Indian experience support such an ›nswer? Is it possible to devise a workable system of ›ixed economy that will be free from the evils of Government controls associated with socialism or of ›he greed, selfishness, vulgarity in consumption, and an ›nequal society associated with capitalism? Where do ›e go from here in formulating a new approach to ›ndian planning?

Quite frankly, I am unable to answer these very pertinent but vexing questions on how we can improve the normative base of planning not merely in words but in implementable policies, programmes and plan out-lays. All that I can say is that whatever ideology we adopt as the base for our development, they will not work unless they are also based on a basic system of moral and spiritual values, giving our society the needed normative structure. These basic values include disci-pline, sharing, egalitarianism, social justice, uplift of backward classes and regions, ban on conspicuous and vulgar consumption, propagation of self-reliance, not only at the national level but also in a micro manner in local areas and in families and households.

I would end by reiterating what I had said a few months earlier from the same platform on the occasion of the Silver Jubilee of this Institute. I quote: "In short, we have to build into the growth process, the basic values of our Indian culture and heritage. The question is how do we build these values into the growth process, the growth pattern and the growth structure. It seems to me that the instruments for this purpose are com-munication, information, media, and education. The roots of the value oriented development should be in India's composite culture, in India's unity in the midst of diversity. Our basic values have to be somehow or other interwoven and inter-linked with the planning process. This should become, in my humble opinion, the objective of planning and national effort, not only governmental effort but all non-official efforts, a whole big National effort, so that as much of our value heri-tage as possible gets integrated into the growth structure and growth process and thereby liberates up from a narrow preoccupation with savings, investment, science, technology, exports etc. All these latter are very im-portant; but also important are values and how to put values into every aspect of planning, every aspect of growth, every aspect of industrial and economic and other kind of processes."

If we can do this, we will be giving an enduring reality to the new approach to Indian Planning. □

Spinning centre helps tribal women

BORJOLAI IS A tribal village under Jirania Block of West Tripura district. Over one hundred tribal families live in and around the village. Most of them are small farmers, the rest being the landless agricul-tural labourers.

Considering the backwardness of the village, the Khadi and Village Industries Commission, Agartala, started a Spinning Centre of New Model Cherkha at Borjolai in 1976 under its direct activities programme with a view to providing employment opportunities to the village women.

The local women find that along with the male mem-bers of their families working in the fields, they can also earn and meet a good part of their family need by their earning through the Commission's Spinning Centre. And now more [illegible] tribal women are working in this Centre during their leisure time and each of them earns Rs. 150 to Rs. 200 per month. □

Why unemployment among the skilled?

Mohan Bhatia

Though there has been a phenomenal increase in the number of institutes imparting specialised training, larger investments are required to be made to provide the gainful employment to the trained personnel. And to have full and fruitful utilisation of Indian scientific and technical manpower, it is necessary that their education and training be related to the needs of the society, the author adds.

TRAINED MANPOWER is a resource which cannot be created overnight. It takes quite sometime to establish institutes and impart training. Realising the importance of such a vital input in the development process, the Government of India's historic 'Scientific Policy Resolution', (SPR) states that "The wealth and prosperity of a nation depend on the effective utilisation of its human and material resources through industrialisation. The use of human material for industrialisation demands its education in science and training in technical skills. Industry opens up possibilities of greater fulfilment for the individual. India's enormous resources of manpower can only become an asset in the modern world when trained and educated.

In a way the resolution has led to the establishment of several educational institutions in the country with an aim of training adequate number of S & T persons in different fields. Presently, stock of the scientific and technical personnel in the country is estimated to be the third largest in the world. Unfortunately, not all the trained scientists and technologists are gainfully employed. There is growing unemployment among these personnel.

The trends in the establishment of training institutions, growth in the pool of S & T manpower and increase in their unemployment, establishes a case for the oversupply of these personnel. Apparently, India's trained S & T manpower is not being properly utilised. These trends and factors responsible for the same have been discussed here, keeping in view the aims and objects of SPR.

Growth of educational institutions

Ever since independence, as a result of various policy directions based on recommendations made by the different manpower committees and commissions and consequent increase in the financial inputs in the field of education, there has been tremendous increase in the establishment of institutions for training scientific and technical personnel.

Many new institutions of higher learning have been established to train manpower required for carrying out research, teaching and running industries. In 1947, there were only 25 universities. Now there are 135 of them including five Indian Institutes of Technology, Indian Institute of Science, Indian Agricultural Research Institute, All India Institute of Medical Sciences, etc., which are deemed universities. Education in engineering and medical sciences is mostly imparted in the colleges of engineering and medicine. Their number has also increased manifold since independence.

In the early years of independence growth of these institutions was minimal. In the early fifties, only 5 new universities, 14 new colleges of engineering and 11 new medical colleges were established. In the sixties there has been a steep rise in the establishment of new universities, colleges of engineering and

medicine. The increase in the number of engineering and technological colleges is phenomenal. In 1960-61, there were only 81 such colleges. Their number has risen to 640 in 1965-66. The number of universities has now reached 135,800 colleges of engineering and technology and 106 medical colleges. This among others may be attributed to the over enthusiastic implementation of part of the SPR, which aimed, among others :

(i) "To ensure an adequate supply, within the country of research scientists of the highest quality and to recognise their work as an important component of the strength of the nation," and

(ii) "To encourage and initiate, with all possible speed programmes for the training of scientific and technical personnel on a scale adequate to fulfil the country's needs in science and education, agriculture and industry, and defence".

With a view to considering ways and means of implementing SPR three conferences of scientists, educationists and technologists were organised by the Government in 1958, 1963 and 1970. In between the second and third conference a Round Table of Scientists was held in 1967 by the Prime Minister to discuss critical issues relating to the development of science and technology in the country.

There is no uniformity among the institutions of higher learning which differ from each other in the matter of admissions, courses, methodology of teaching etc. While most of them have selective admissions, there are some which have open door policy. Some of them emphasise basic research, others lay emphasis on applied research. Some institutions give preference to teaching over research and some on inter-disciplinary studies, new courses, professional courses, social sciences, humanities, engineering, medicine, etc. It may generally be said that in the sixties the growth of educational institutions was not properly planned which could have contributed to the present high rate of unemployment, among scientists and technologists.

Out-turn of the trained

The out-turn of graduates and post-graduates has increased very rapidly during the two decades covering the period from 1950 to 1970. In 1950, the out-turn in all the four categories of science, agriculture, engineering and technology and medicine was only 16,219; it increased to 40,756 in 1960 which works out to little over 150 per cent in the fifties. In 1970, the out-turn increased steeply to 1,39,782 which works out to little over 243 per cent in the sixties. Later the increase in the out-turn was minimal, only 30,000 in 1980. In the agriculture sector there has been, in fact, a decline by 1809 in the out-turn of B.Scs. in the year 1980 over the 1970 out-turn. In the case of M.Scs in Agriculture the increase is only marginal. However, in the case of Ph.Ds the increase is very steep, from 217 in 1970 to 450 in 1980.

It may be mentioned here that most of the students who go through the process of higher learning do so simply to earn a degree which is considered as a measure of educational achievement and thus qually trained personnel add to the stock of country's social and political pressure on academic institutions for an increase in their intake capacity. These newly trained personnel add to the stock of country's S & T personnel and put a lot of pressure on the employment market. Since jobs cannot be created as fast as graduates there is urgent need to control the intake in these institutions.

In a developing economy, demand for highly qualified personnel in science, engineering and technology is quite high. In order to utilise country's limited resources and capital it is imperative to have sufficient number of trained personnel in different sectors of development. Also there is need to look into the qualitative aspects of S&T manpower. It is also equally important to create and support pools of excellence from which technical breakthroughs could emerge in future.

The total stock of S & T personnel at the beginning of 1980 has been estimated to be approximately little over 24 lakhs out of which approximately 19.50 lakhs are considered economically active. Not all the economically active S & T personnel are employed. Approximately 15 per cent of them are unemployed. Categorywise estimated stock of S & T personnel, economically active persons, and their unemployment position is given in the Table below.

Table-I

Estimated stock, No. of economically active persons, employment & unemployment of S&T persons in 1980

Sl. No.	Category	Stock	No. of Economically Active	Unemployment	Unemployment % to Economically Active
1.	Engineering Degree Holders	2,54,000	2,21,400	15,700	7.09
2.	Engineering Diploma Holders	3,78,600	3,29,400	65,500	19.80
3.	Medical Graduates	1,78,500	1,55,300	10,100	6.50
4.	Dental Surgeons	11,600	10,100	200	1.98
5.	Nurses (B.Sc.)	2,200	2,200	..	..
6.	Agricultural Graduates	98,800	77,100	8,800	11.41
7.	Veterinary Graduates	22,300	19,400	700	3.60
8.	Science Graduates	9,61,900	7,50,300	1,54,300	20.57
9.	Science Post-Graduates	2,78,900	2,71,500	10,600	4.87
10.	B.Sc/B.Ed	2,13,200	1,66,300	24,800	14.90
	Total	24,00,500	19,49,000	2,90,700	14.90

Source :-Report of the Committee on Scientific and Technical Manpower, New Delhi, Deptt. of Science & Technology, 1981 p. 26

The strength of medical graduates in the Table covers only those having M.B.B.S. qualifications. It excludes those holding similar qualifications in indigenous system of medicines, viz., Ayurveda, Unani, Siddha and Homoeopathy. Categorywise their stock in 1978 has been estimated as under :

Ayurveda	1,19,361
Unani	10,269
Siddha	1,559
Homoeopathy	26,000
Total	1,57,189

The stock of practitioners of indigenous system of medicine is little more than that of the medical graduates. Further most of these personnel are employed in the profession. This not only reflects on the popularity of these systems of medicine but also emphasises continuing need of trained personnel in these systems because most of them work in the rural areas.

Among other categories highest stock numbering 9,61,900 is of Science Graduates, followed by Engineering Diploma Holders numbering, 3,78,600. Lowest stock numbering 2,200 is of B.Sc. Nurses.

Increasing unemployment

The total stock of economically active S&T personnel in 1978 has been reported as 19,35,300. Not all the economically active personnel had been employed. In 1978 only 16,98,000 S&T personnel were employed, and the remaining 2,37,000 or approximately 12.2 per cent were unemployed. In 1980, the employment situation has further deteriorated, when the total stock of economically active S&T personnel have been estimated at 19,49,000. Out of which 16,58,000 were employed and remaining 2,90,700 or approximately 14.9 per cent were unemployed. Thus in a period of about two years, unemployment among scientists and technologists has increased by 2.7 per cent.

Apparently education facilities in certain areas of S and T have been over established without taking into consideration employment opportunities for fresh graduates. Additional employment opportunities could be created only by investing huge sums which the country can ill afford.

The increasing unemployment has made many young scientists, engineers and doctors frustrated who have changed their profession and looked for employment in administration, civil service, banking or tried to migrate. Either way, the country has been the looser. In the first case, their services cannot be utilised in the field they have been trained. In the second, their services are not at all available in the country.

India took the path of planned economic development in 1951. With it, manpower planning also assumed considerable importance. However, it was only 1970 Conference of Scientists and Educationists which recommended that the "Manpower planning should be integrated with overall national planning of goods and priorities". By then much harm had been done by the over zealous implementation of SPR—resulting in tremendous growth of educational institutions and out-turn of S&T personnel and consequent unemployment.

It may be mentioned here that not all the scientists, engineers, doctors etc. trained are economically active all the time. There is always some time gap between graduation and securing a suitable employment. Further, some of the trained S&T personnel who are active at one time may not be economically active at another time. For example, female science graduates may not be economically active after marriage. They may return to economically active category after their children have grown up. There may be many science graduates who are employed in the Civil Services, Banking, Management, etc. As such not all the qualified S&T personnel are employed in the profession they have been trained. Moreover, many though employed in their field of specialisation may be engaged on a routine job and contributing little to the advancement of knowledge. No wonder the total number of S&T personnel engaged on Research and Development is much less.

Working for new knowledge

Those who work on R&D contribute most to the generation of new knowledge and socio-economic development by the application of results of research in the production system. The total number of S&T personnel engaged in R&D is much less as compared to the overall size of S&T manpower. Total economically active stock of S&T manpower in 1980 has been reported as 19,49,000. Out of these only 1,84,096 are employed in R&D institutions, which works out to only 9.5 per cent.

As on 1st April, 1980, only 1,84,096 S&T personnel were employed in R&D institutions. The number of S&T personnel engaged primarily on R&D activity is only 64,876 which works out to only 35.2 per cent. Nearly one third of S&T personnel working in the S&T institutions are engaged on administrative and non-technical activity and nearly same number on auxiliary scientific and technical activity. On an average it can be said that for every R&D scientist there are 2 supporting scientists working on auxiliary and administrative services in research institutes. This ratio will vary from institution to institution depending on its internal organisation, job classification, and nature of research, etc. The lower percentage of scientists working on R&D may be due to the fact that most of the scientists employed in research institutions are not Ph.Ds as is clear from the following Table. Through Ph.D is not a must for carrying out research, it does, however, initiate one in the research process prior to one's employment.

Table III

Educational qualifications of personnel engaged in R&D as on April 1, 1980

Sl. No.	Name of the Institute	Ph.Ds	Post Graduates	Graduates	Diploma Holders	Others	Total
1.	D.A.E.	644	1,343	1,621	495	97	4,200
2.	C.S.I.R.	1,469	2,300	1,675	273	476	6,193
3.	D.R.D.O.	181	2,565	2,301	1,723	128	6,898
4.	I.C.A.R.	990	1,940	259	200	713	4,102
5.	I.C.M.R.	126	227	73	10	20	456
6.	Space	225	861	993	656	902	3,637
7.	Other Institutions under the Central Govt.	1,236	3,555	5,184	2,429	2,804	15,208
8.	State Govts.	991	3,990	2,260	263	1,507	9,011
9.	Private Sector	791	2,384	4,500	1,850	2,066	11,591
	Total	6,653	19,165	18,866	7,899	8,713	61,296

Source : Research & Development Statistics, 1980-81, New Delhi, Deptt. of Science & Technology, 1982. pp. 70-71.

Conclusion

It is now generally accepted that the SPR's aim "to encourage and initiate, with all possible speed, programmes for the training of scientific and technical personnel on a scale adequate to fulfil the country's needs in science and education, agriculture and industry and defence," has been implemented with over enthusiasm resulting in phenomenal increase in the number of institutes imparting training in science, engineering and technology and outturn of trained personnel in these fields. However, little effort has been made to match the supply of newly trained scientific and technical personnel with the demand for their employment in industry, agriculture, defence, education, etc. keeping in view actual investments in various sectors. So much so that there is unemployment among the scientists, engineers and even doctors in the country. There may be many who are underemployed and are working in fields other than those in which they have been trained. This characteristic of S&T manpower needs to be probed further.

The reasons for this state of affairs could be many. The Plan projections for manpower might be fairly reasonable. Agencies responsible for the task of providing training facilities have gone ahead to achieve the Plan targets. However, to employ gainfully the trained personnel there is need for proportionate investment in various production sectors as projected in various plans. Apparently, the actual investments in the production sectors have fallen short of the Plan targets. If this could have been noticed in time and corrective measures taken immediately, the present unemployment of 14.90 per cent could have been much less, if not completely wiped out. It is, therefore, imperative to keep a constant watch over the situation and carry out relevant studies and introduce corrective measures, as and when necessary.

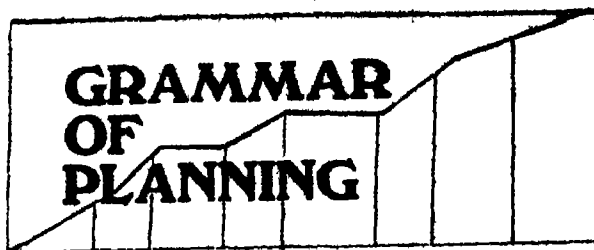
In order to have full and fruitful utilisation of Indian S&T manpower, it is necessary that their education and training be related to the needs of the Indian society. How best the individuals trained in various fields are able to put to use their S&T education; and how useful is their education to the society at large are some of the vital points which need to be explored and studied in detail.

Cage makers get bank aid

Villagers of Unsani in Howrah district are traditional cage makers. For generations, they have been making cages to earn a living.

Of late, they were finding it increasingly difficult to obtain enough raw materials to ply their trade. They wanted to purchase bamboo, canes, threads and varnish in sufficient quantities so that their work would not be interrupted and their margin of profit would be slightly higher. As in the case of other artisans, they too were hampered by shortage of capital.

When their plight was brought to the notice of Unsani of Branch of the State Bank of India, it decided to extend its assistance.

The Bank gave loans to 51 selected cage makers of the village. Interest rate was very low. Loans varied between Rs. 200 and Rs. 300. This helped them stock enough raw material. They have now become a little more sure of themselves. And their loans are being rapid regularly. □

Why planning?

P. R. Dubhashi

"Planning, a method of the modern scientific age, is an orderly arrangement of the future." It stands for the triumph of reason over superstition, of understanding over ignorance, of organised initiative over fatalistic helplessness. Planning has now become a distinctive characteristic of modern society and economy ?

It was Sir Harcourt Butler who said at the beginning of the century that "we are all socialists now". With much greater justification can it be said, in the last quarter of the century that "we are all planners now" While there may still be many people who would not call themselves socialists, they may not hesitate to call themselves planners.

This is because planning has now become synonymous with the method of the modern scientific age. When the word planning is used in this sense, it simply has its universal connotation, namely, planning is "an orderly arrangement of the future". Instead of leaving the future to be decided by the vicissitude of circumstances, the method of planning is used as a deliberate attempt to understand the forces that shape the future and to mould them in such a manner as to facilitate emergence of the arrangements for the future which would be more consistent with our own goals and desires.

Triumph of organised initiative

Planning stands for the exercise of will as against helpless surrender to our own environment. In this sense planning stands for the triumph of reason over superstition, of understanding over ignorance, of organised initiative over fatalistic helplessness.

With modern technology and organisation, man's ability to understand the circumstances which influence his life and to shape them has enormously increased; that is why, planning has become the handmaid of technology and organisation.

It is thus rightly expected of every modern man or an institution or organisation to plan for the future It is in this sense that the planning has become a distinctive characteristic of modern society and economy. To the extent to which planning has become a part and parcel of organised social acition, the society could be described as modern and progressive.

John Kenneth Galbraith in his *The New Industrial State* has drawn attention to the significance of planning in the new industrial society. Modern technology requires a massive and inflexible commitment of resources to the introduction of innovation in the process of production of goods and services. It is impossible to make such commitments without meticulous and detailed research and planning not only regarding the production of particular goods or services but also their marketing.

In the words of Bauchet : 'Long before new requirements arise, means of satisfying them must be considered and a research programme initiated, the results of which may take as long as five years to mature. All Western countries draw out their forecasts and programmes in the sphere of energy for about twenty years. The supply of energy at normal prices depends on investments made more than fifteen years ago. This applies equally to iron and steel industry, the chemical industry and all other rapidly expanding branches with a growing volume of investment. All these industries require investment of larger and larger sums further and further in advance of the anticipated date of production."

A technique of modern management

Planning has become a passport to success of an enterprise. It has become the first and most important technique of modern management. Absence of planning is absence of preparation and therefore the path of failure. Because of the interdependence in growth, forecasts cannot be confined to single firms or sectors of the economy but are undertaken on national and international scale as well.

This is, however, not the sense in which economists use the world planning. Planning in the universal sense of the orderly arrangement of the future need involve no controversies. Planning on the other hand, has been a subject of fierce controversy in the past and continues to be so even today because of the special meaning of planning as understood by the economists, social thinkers and policy makers. In that special sense, planning stands for replacement or supersession of planning by individuals or private institutions with planning by the state. Planning thus stands for an economic system which is an alternative to free economy and *laissez-faire* policy.

The objective of the planning by the state is to influence, alter or redirect decisions by individuals or private institutions, by consumers, producers and workers so that they can conform to the pre-determined preferences or goals set by the planners. It is planning in his specific sense that constitutes the pandora's box of controversies between economists, social thinkers and parties belonging to various schools of thought, various isms and various political, economic and social systems.

Moreover, though adherents of different schools of thought, or isms, or economic philosophies repose their trust in planning, they do not mean the same thing when they talk of planning. Indeed there appear to be as many concepts of planning as the various schools of thought which talk about planning.

Thus one school of thought would look upon planning as a method of overcoming the shortcomings of capitalism or the market economy. They would like to keep the basic mechanism of the market economy in fact. But they would use planning not to end but to mend the market economy, to set right its defects or oberrations. They would like to combine planning with the market mechanism or a free economy.

On the other hand, the socialists would like to end the market mechanism and the private ownership of means of production. The latter would be socially owned and planning becomes a method of management of the socially owned means of production.

For breaking poverty circle

Finally, for the developing countries for the world, planning stands for a method of breaking the vicious circle of poverty and bringing about economic development and social change as speedily as possible.

Thus, the concept and rationale of planning would depend on which school of thought is talking about planning. All that is common to these different concepts of planning is what has been mentioned above as the universal idea of planning, namely, orderly arrangement of the future.

While a wide variety of people believe in planning, though in different senses, there is still a group of thinkers who do not believe in planning at all, who consider that management of economy through planning is an impossibility, is not practicable and is destined to fail. Among these are Ludwig Von Mises and F.A. Von Hayek.

Every economic system has to provide answers to the fundamental economic questions. These are, what to produce, how much to produce, for whom to produce, how to produce, when to produce, where to produce and why to produce. The last perhaps is the most important of all the questions because it deals with the fundamental problem of economic motivation.

Man an economic animal

The whole of economics, as it has evolved from the days of Adam Smith, the author of *Wealth of Nations*, stipulates that man is an economic animal and is governed in his economic decisions, whether as consumer, producer or worker, by the fundamental motivation of economic self-interest.

Each as an independent economic agent, tries to get maximum satisfaction at the minimum sacrifice of economic interest. This maximisation process involves marginal adjustments. The consumer tries to maximise his satisfaction by ensuring that the marginal satisfaction of spending the last unit of money on various commodities is the same. The worker tries to maximise his satisfaction by equating the marginal dissatisfaction of additional hour of work with the satisfaction from goods and services derived from the additional wage earned. Finally, the entrepreneur or the producer tries to equate the marginal cost with marginal profit in trying to optimise his production.

These decisions of every individual governed by economic motivation provide answers to the basic economic questions as though they were mere by-products. Thus the answer as what to produce is governed by the demand of consumers which in turn depends on their income, the scale of preference and the relationship between price and demand known as elasticity of demand. The answer to the question how much to produce and for whom to produce is also governed by the same conditions affecting the level of demand.

Market economy

The market economy is supposed to be ruled by the sovereignty of the consumer. It is the pattern of consumption that governs the pattern of production and provides answers to the question what, how much and for whom to produce. The market mechanism or the price mechanism simultaneously decides the allocation of resources in the processes of production in such a manner that the pattern of production conforms to the pattern of consumer demand. Indeed, the distribution of income, the pricing of products and of all factors of production are simultaneously determined by the same mechanism.

There is a continuous tendency towards equilibrium which ensures parity between costs and prices, productive contribution of the factors of production and compensation to them, demand and supply of goods and services and demand and supply for factors of

production. Any imbalance between costs and prices and demand and supply of goods and factors of production is corrected by the equilibrating tendency of the market which were described as the 'invisible hand' by Adam Smith, the founder of economic science.

In such a free, perfectly competitive system of market, there could be no undue profits, no exploitation of consumer, the worker or the producer, no permanent surplus or deficit commodities and no persisting unemployment because each of these imbalances would set in the correcting forces into motion. Thus, the market mechanism would ensure an optimum utilisation of the resources of the economy and an optimum scale of production.

In what way production ?

The questions where to produce, how to produce and when to produce are also settled in a similar fashion. The question as to where to produce is the subject-matter of the economic theory of location, developed first by Alfred Weber and subsequently by other economists. Industries or enterprises will be pulled, on one side, by proximity to raw materials and, on the other, by the proximity to the market for the finished products. The balance of both these factors would be decided by comparing the marginal cost of trasporting raw material with the marginal cost of transporting the finished products.

If transporting the raw material like sugarcane is more costly, then the factory will be located near the source of supply of raw materials. On the other hand, if the raw material is economically transportable proximity to the market for finished product will tend to decide the location near big consumer centres, i.e. cities. The same considerations of balancing the comparative cost will govern whether the goods will be produced within the country or imported. The law of comparative cost is an international extension of the law of the market economy.

The questions as to how to produce and when to produce are decided by balancing the marginal sacrifice of savings with the marginal product of investment. The marginal sacrifice of savings is measured by the loss of satisfaction caused by the postponement of consumption, while the marginal productivity of investment decides the returns that follow the postponement of present consumption for increasing the future flow of goods and services. If the marginal sacrifice of savings is greater than the marginal product of investment, then the decision would be in favour of a production process which will be less capital intensive. On the other hand, higher productivity of investment would lead to the choice in favour of a more elongated process of production requiring investment of resources in capital goods or long gestation production process.

Thus, the market mechanism ensures maximum satisfaction to the consumers, maximisation of profit to the producers, optimum allocation of resources as also full employment of resources. This is not in consequence of any central direction of the economy but a by-product of the maximisation process in which individual consumers, workers or producers participate, each deciding by himself and none able to influence the economy as a whole.

If the market economy is such a paragon of perfection then what is the need for planning the economic affairs rather than leaving them to the market forces ? The answer is that market mechanism can deliver the goods only if certain assumptions are fulfilled.

The market economy never functioned in a perfect manner as envisaged in the theoretical model. In practice, economic aberrations developed not in a marginal or in transient manner but in a structural, chronic and persistent manner which led major economists and social thinkers to question the fundamental assumptions regarding the working of the market economy and the adequacy of the capitalistic economic system to deliver the goods.

Internal contradictions in capitalistic economy

Already Karl Marx had predicted that the capitalistic market economy would collapse under its own weight due to internal contradictions But Marx was looked upon by the orthodox economists as a heretic who did not belong to the regular line of economists, whose teachings did not form part of the economic textbooks and who found a place only in the textbooks on the history of economic thought.

But, economic, realities cannot be wished away by constructing elegant economic models ! Economists were forced to consider the major evils of the capitalistic market economy namely, monopoly, inequality, unemployment and neglect of productive and social considerations.

The entire rationality of the market mechanism rested on the assumption of a free competition between the innumerable producers and innumerable consumers.

But, in practice, this assumption goes by the board mainly because of the operation of the law of increasing returns to scale and indivisibility of investment, plan and machinery in many sectors of the working of the modern economy. Such were the advantages of large scale production and organisation, that it was found in the evolution of the capitalistic economy, that in areas as diverse as steel, motor cars, food products, fertilisers, etc. small units could not survive inevitably leading to the emergence of few gaint enterprises dominating the entire production if not a single firm monopolising it. Prof. Galbraith has vividly described in his New Industrial State how some 500 monopolistic enterprises in America virtually control the entire economy. In public utility enterprises, like railway and electricity, monopolies were found to be inevitable. Thus monopoly, oligopoly and monopolistic competition happened to be the rule rather than the exception.

No unmixed blessing

But the emergence of monoply can hardly be an unmixed blessing because while it gives the advantages of large scale operation at the same time it enables the monopolists to hold the consumer and

the community to ransom. Indeed the monopolist dethrones the consumer and usurps his place as the sovereign of the economy. The consumer is at the sweet will and mercy of the monopolist.

Once the monopoly emerges, many other evils may follow. The monopolist could create artificial scarcity and boost prices. He may spend excessive amount on advertisement to bamboozle consumer and force him to fall in line with what the monopolist wishes. He may indulge in product differentiation without any real substance. He could limit production and boost prices and profits. He could indiscriminately exploit the natural resources.

A source of inequality

Monopoly leads also to the concentration of all means of production and fruits of production in few hands. In other words, monopoly is the biggest source of inequality. Of the many undesirable consequences of inequality is the distortion of production and channelisation of resources in directions which could be considered as of low social priority. Thus, since the purchasing power is concentrated in few hands, the luxuries of the few exert greater pull on the production system than the dire necessities of many.

One of the advantages claimed by the market economy is that it adjusts the production prices to the pattern of consumer demand. But this so-called advantage of the market economy becomes a major evil, if the consumer demand itself reflects economic inequalities where food for the pet dog of the rich receives higher priority than the food, shelter and clothing for the poor.

These two evils of monopoly and inequality in fact lie at the root of the evil of unemployment. The capitalistic economy traditionally suffered from the occurance of business cycles. The economy moves in the cycle of prosperity and depression.

During the period of depression a large number of people were thrown out of employment. The worst shock to the economy came with the great depression of 1929 which shook capitalism to its foundations and called for an agonising re-appraisal of the conventional economic analysis. The latter would have us believe that the depression in the economy was caused by the fall in profit of business which in turn was caused by rise in costs. The remedy was, therefore, to cut down the costs, i.e., cut down wages and reduce interest rates. The policy of cutting down wages however served to deepen depression and it required the genius of John Maynard Keynes to evolve new economics which taught that the depression was caused by fall in effective demand which in turn was caused by the collapse of purchasing power.

The remedy would lie in supporting the effective demand through a programme of public investment and a comprehensive programme of social security. The funds for such an investment programme would be found by transfer of funds from the affluent to the indigent which would also serve to increase the propensity to consume and boost up effective demand.

Concept of welfare economics

The apologist of the market economy some time tend to confuse productivity with profitability. Monopoly, scarcity, and immobility may encourage business activities which are profitable, but they would not be necessarily productive and socially desirable. Moreover, the profitability criteria take into account private costs and benefits and not social losses and gains.

It was Pigou who introduced the new concepts of welfare economics based on an accounting of social benefits and costs. Housing and transport congestion, excessive pressure on public services, like water and sanitation, environmental pollution through generation of smoke and industrial wastes and effluents, are social costs which the market economy fails to take note of.

Thus planning came to the fore-front in western economies to mend the evils of capitalism if not to end the system itself—the evils of monopoly, unemplopment, inequality and social costs. In the words of Barbara Wootton, "By its very nature, the market is incapable of registering preferences which cannot be reflected in the consumer demand for particular articles, e.g., preference for full employment, social values, etc. These can only be promoted by deliberate planning and not by any commercial market". The agenda of such planning needed a public investment programme and a series of physical and monetary measures, a set of subsidies coupled with progressive taxation, public consumption programme, and social insurance. Though the details may vary, these have become the essential ingredients of planning in the western economies.

A wind of change

After World War II, planning assumed new significance in the Western countries. It become "a sign of the 'wind of change' blowiing through the traditional capitalistic structure". Of all the western European countries making use of planning, France emerged as the outstanding.

Their system of "indicative planning" tried to reconcile planning with market economy, freedom of choice for the consumer and businessmen with centralised direction, and consultation with capital and labour with parliamentary democracy. Planning not only became increasingly important for achieving significant growth rate but also proved to be indispensable for the establishment of price, production and manpower policies for public and private enterprise. "Thanks to the increasingly precise methods of econometric analysis and investigation, planning in Western countries has become more and more a sophisticated exercise".

Planning thus brought about a significant qualitative transformation in the capitalistic economic system without destroying it. It changed the market economy from a mechanism working blindly under the forces of demand and supply into a purposeful forward-looking organisation. It has provided a common framework of operation for different partners in the

(Contd. on page 24)

Where India in non-ferrous metals?

P. K. Sahoo, P. R. Soni & T. V. Rajan

Non-ferrous metals play a very important role in modern civilization. India is meeting its home demand by indigenous production to the extent of about 28% for copper 34% for lead, 44% for zinc, and 65% for aluminium. Here the author discusses production, consumption and import in recent years, and future plans for production of non-ferrous metals in India.

ALL NON-FERROUS metals can be classified in two groups, namely, common and rare metals. Aluminium, copper, zinc, lead, cadmium, nickel, tin, magnesium, and manganese are in large scale production today the world over and have firmly established their place in modern engineering and are known as common metals. The rest of the large family of non-ferrous metals fall in the category of rare or uncommon or special metals.

Among the common metals our resources in terms of ores are considerable with respect to the two metals; aluminium and manganese. However, with respect to other common metals the reserves and production are not adequate.

The development of the rare metals has been slow for number of reasons. The natural supply or abundance in the earth's crust may be small. Even if fairly prevalent, the concentration in accessible deposits may be so low as to require handling and processing of huge amounts of material in order to extract even small quantities of the desired element in either compound or elemental form. However, in the recent time, many rare metals have assumed considerable importance because of their suitability for special applications in diverse fields e.g. uranium, thorium and zirconium in nuclear power generation, titanium and beryllium in aeronautics and space engineering and silicon and germanium in electronics. Demand of these metals have stimulated establishment of special technologies for their large scale production.

Position in Aluminium

Aluminium is the most abundant (8.13 per cent) of the commercial metals and is third in abundance of the elements in the earth's crust, following oxygen (46.59 per cent) and silicon (27.72 per cent). Today, it is of great worth particularly due to its applicability in air-craft construction.

Aluminium industry in India covers period of about 35 years. However, its development had a quite rapid pace and today it has become the primary non-ferrous metal industry in the country. In 1982-83, India produced 2,08,174 tonnes of aluminium against the installed capacity of 2,50,000 tonnes. Per capita consumption of aluminium in India is 370 gm. The highest production was 2.14 lakh tonnes in 1978-79. The imports of aluminium have shown steadly rising trend : from 33000 tonnes in 1978-79 it rose to an estimated 1.3 lakh tonnes in 1980-81.

The Planning Commission has provided Rs. 900 crores in the Sixth Plan for the proposed Orissa

Table-I

Production, Consumption and Import of Aluminium in India

(Tonnes)

Year	Target	Actual Production	Consumption	Import
1978-79	2,10,000	2,16,000 (101.9)	2,49,000	33,000
1980-81	2,50,000	2,00,400 (80.0)	3,30,400	1,30,000
1982-83	2,60,000	2,08,176 (80.0)	N.A.	N.A.
1989-90	5,70,000	..	..	..

Note :—Figures in brackets show the ratio of production to target expressed as percentage.

N.A.—Not Available.

Aluminium Complex with total cost Rs. 1,242 crores, including a foreign exchange component of Rs. 167.50 crores. The complex will consists of a bauxite mine with an annual capacity of 2.4 million tonnes, an alumina plant with 8,00,000 tonnes capacity and an aluminium smelter to produce 2,18,000 tonnes. A National Aluminium Company has been formed to manage the affairs of the complex. The alumina plant and aluminium smelter are scheduled to be commissioned in Sept. 1985 and Feb., 1986 respectively.

Copper a basic metal

Copper has certain basic properties of the metal viz. high thermal conductivity, excellent electrical conductivity and good formability. Copper is also used as an alloying element with many metals to provide good mechanical properties. It can be joined by brazing and soldering, it has good corrosion resistance and can be accurately electro-deposited. The natural resources of copper are unique in the sense that they are excellent hosts of many other valuable elements. The by-products from copper metallurgy form an impressive list including nickel, cobalt, molybodenum, gold, platinum, silver, selenium, arsenic, sulphur etc.

Copper as an industrial metal has gained considerable importance in the Indian industrial scene. While the demand for copper metal has been steadily growing, the indigenous production has not come up to expectations. Some of the problems include lack of deep hard rock mining expertise, non-availability of latest mining machineries and explosives etc., and low grade copper ore distributed in small pockets over wide areas. The total probable reserves of copper ore in India may be of the order of 366 million tonnes with 1 per cent copper content. A substantial portion of these reserves is located in the Singhbhum area of Bihar, and Khetri and Dariba in Rajasthan.

TABLE-II

Production of Copper (Blister)

(Tonnes)

Year	Target	Actual Production	
1976-77	36,000	23,715	(65.9)
1978-79	32,300	23,700	(67.8)
1980-81	27,000	25,400	(94.0)
1982-83	37,000	27,000	(73.0)
1989-90	86,000	..	

Note :—Figures in brackets show the ratio of production to target expressed as percentage.

In respect of blister copper, the production target has been lowered from 36,000 tonnes in 1976-77 to 27,000 tonnes in 1980-81. However, the target has been set somewhat higher in 1981-82. The production had nearly stagnated at around 22,000 tonnes till 1979-80. In the subsequent years, the performance of the copper industry has been satisfactory, per capita consumption of copper is only about 160 gm. whereas in Japan it is about 15.14g. Copper production in India is expected to increase to 85,000 tonnes by 1990 but even then it will be meeting only 55 per cent of the demand. A large percentage of the domestic requirement is being met through imports.

The Government is aware of the problems of this industry and action has been taken to improve this situation through intensive training of personnel, expansion of old mines and development of new mines, development of machines manufacturing capability, and import of essential material wherever necessary. Hindustan Copper Limited proposes to step up production to 65,000 tonnes as against the projected demand of 1,17,000 tonnes by 1984-85 and to 85,000 as against the demand for 1,57,000 tonnes by 1989-90.

Zinc produced since ancient times

Production of zinc in our country dates back to thirteenth century. But demand of zinc in India constitutes only 2.5 per cent of the world demand. Country's demand for zinc prior to independence was being totally met through imports. Today, India produces and meets about 45 per cent of the country's zinc requirement. Zawar Mines, the chief source of raw materials for zinc, are situated 25 miles south east at Udaipur City. Attempts to establish a smelter at Debari, near Udaipur, Rajasthan, began in 1957. The installation of zinc smelter by Hindustan Zinc Limited at Debari in 1968, had only made the beginning towards realising the ambitious goal of substantial self-sufficiency of this metal. Presently, at Debari about 19,000 tonnes per annum zinc is produced against the installed capacity of 45,000 tonnes/year. Good quality reserves of zinc and lead are also available at Rajpura-Dariba (Bhilwara). Recently very rich (combined zinc-lead content of about 15 per cent) deposits (53.00 MT) of zinc and lead have been found in Rajasthan at Agucha.

TABLE-III

Production Consumption and Imports of Zinc in India

Year	Target	Actual Production	Consumption	Imports
1976-77	48,000	27,033 (56.3)	99,380	N.A.
1978-79	67,000	64,402 (96.1)	1,16,290	61,000
1980-81	80,000	44,000 (55.0)	N.A.	35,000 (Provisional)
1982-83	72,000	51,970 (72.20)	N.A.	N.A.
1989-90	1,79,100	..	..	..

Note :—Figures in brackets show the ratio of production target expressed as percentage.

The first metal extracted

Lead was the first metal which was extracted by man. Native metallic lead is extremely rare. It was the extraction of the lead-silver alloy from silver bearing lead ores which became the main object of early metallurgy and the subsequent separation of lead and silver resulted in development of technology of extraction of lead in course of time. The properties which are responsible for the importance of lead are its excellent corrosion resistance, good electrical

and electro-chemical behaviour, high density and softness. As a result, this versatile metal has many applications.

For storage battery grids it has been found superior over other materials. Lead is also used in anti-knock compounds, solders and cable sheathing for certain ranges of power cables. Lead is used traditionally for plumbing and pigments.

In India lead is produced at Visakhapatnam (Andhra Pradesh), Tundoo (Bihar), and Sangipalli (Orissa). The production of lead has fallen short by a wide margin against installed capacity except in 1980-81. Due to the industrial importance, the consumption of lead is on the increase and indigenous production has not so far been able to keep with the growth of consumption as seen in the table. As compared to industrialized countries 1.3 kg., the per capita consumption of lead in India is only 70 gm which is even lower than average value of developing countries (150 gm.)

TABLE IV

Production, Consumption and Import of Lead in India

(Tonnes)

Year	Target	Actual Production	Consumption	Imports
1976-77 . .	8,000	6,181 (77.3)	50,560	N.A.
1978-79 . .	14,000	10,475 (74.8)	N.A.	27,000
1980-81 . .	14,000	14,900 (100.0)	N.A.	55,000
1982-83 . .	15,000	14,801 (100.0)	N.A.	N.A.
1989-90 . .	58,500	..	..	..

Note :—Figures in brackets show the ratio of production to target expressed as percentage.

Production of secondary metal through the organised sector takes care about 20 per cent of the total lead consumption in the country. The total installed capacity of secondary lead in the two plants of Indian Lead Pvt. Ltd., is 22,500 tonnes per annum which exceeds the current installed capacity of 18,000 tonnes per annum for primary lead production in the country. Besides, there are small scale secondary lead producers in the country who do not come under any organised sector.

Cadmium an alloying agent

Cadmium is mainly used for electroplating, salt manufacture, batteries manufacture of storage, as an alloying agent in dentistry and as a solder metal. It is also used in artificial Jewellery. Due to these uses, the demand of cadmium in world market is high and consequently it has become expensive. Cadmium occurs mainly as the sulphide minerals in association with zinc and lead ores in many small quantities with other minerals.

In zinc and lead ores, the cadmium content is about 0.4 per cent. Thus it is a valuable by-product from zinc smelter. In India cadmium is produced by Hindustan Zinc Limited at Udaipur and Visakhapatnam, and by Cominco Binani Zinc Ltd. at Alwaye. In 1982-83 India produced about 123 tonnes of cadmium. Annual world production of cadmium in recent years is about 19,000 tonnes.

The Yellow metal

According to a study, the above ground gold stocks in the world are estimated to be around 93,000 tonnes. Of this amount, 45 per cent is with monetary authorities, 35 per cent is in jewellery and other industrial uses, and the balance of 20 per cent exists as investment and hoarding. Out of this 4,700 tonnes are believed to be held by India, in the form of jewellery.

The cost of mining gold depends primarily on the grade of the ore. The higher the grade, the lower is the cost. There are other factors like depth of the mine, labour and technology which are responsible for the cost of extracting gold.

The production of gold in India is mostly from Kolar mines, about 1.7 tonnes per annum. The total gold produced from mines till now comes to about 790 tonnes. The residual ore reserves at Kolar now available are about 35 million tonnes. The chances of finding any new gold field in India with substantial reserves outside the existing belt appear to be remote. The Geological Survey of India (GSI) and the Minerals Exploration Corporation Limited, however, have not given up hope.

The GSI has taken up a programme on priority basis in the northern part of Kolar Schist belt in Karnataka and in southern part of the Schist belt in Chittor District of Andhra Pradesh. In addition, there is search in Hutti Maski Schist belt in Raichur district in Hosur-Yelishirur blocks, in Gogad gold field in Dharwar district of Karnataka. Investigations initiated in Raigarh district of M.P. have located a gold bearing gravel zone of two metre thickness. The crash programme for exploration of gold has been launched as the proved gold reserves in the Kolar and Hutti fields are expected to sustain the mining operation for only the next 15 to 18 years at the present level of production.

Endowed with rate metals

India is endowed with significant resources with respect to quite a few rare metals and a considerable amount of expertise had already been gained in various areas related to metallurgy of these metals like underground mining for low grade ores, physical beneficiation of beach and minerals, hydrometallurgical processing, pyrometallurgy, vacuum induction, arc and electron beam melting. The future development programmes in the field of rare metals should take into consideration the factors like availability of raw materials, the level of the relevant processing technology, the domestic requirement and feasibility of exporting either the finished or semi-finished product at competitive prices.

In the present Indian context, the rare metals can be broadly divided into four groups. The first group consists of those metals, e.g. titanium and beryllium for which the raw material resources are abundant.

In the second group, we have those metals which have somewhat limited resources but processing technology has already been developed satisfactorily on a pilot plant scale and considerable domestic demand exists. It would be advisable to set up industries for these metals, based partially on import of raw ores or concentrates. Simultaneously, emphasis should be laid on exploration, mineral beneficiation and metal extraction programmes. Metals like niobium, tantalum, molybdenum and tungsten come in this category.

The third group is composed of metals which are in very low concentrations in association with the ores of other relatively abundant metals. These metals have considerable concentration in by-product streams and in metallurgical wastes, from where they can be recovered. The possible recovery of gallium from the Bayer liquor in the aluminium industry, and of selenium and tellurium from anodic slimes in the copper industry are illustrative examples. Efforts should be made to pursuade the industries concerned to give serious consideration to this issue.

Lastly, rare metals for which neither raw material resources nor an indigenous technological base exists in the country, constitute the fourth group. In relation to such metals, a near total dependence on imports cannot be avoided for the present. Platinum is an example of this group.

Summing-up

The non-ferrous metals industries in India have recorded considerable progress over the last two decades and a half. The growth and development in production of aluminium has been significant. The progress in production of other base metals is taking place in stages. Demand satisfaction by indigenous production in 1980-81 was about 28 per cent for copper, 34 per cent for lead, 44 per cent for zinc and 65 per cent for aluminium.

Current position of availability of various minerals reveals some interesting facts. For example there are no extensive low grade ore deposits of zinc and lead owing to some basic geochemical reasons but it is somewhat different for metals like copper of which there are large resources of low grade ores. Fortunately, the outlook is much better in relation to aluminium.

Whatever the reasons may be the consequences of lag in the production of base metals output in relation to demand has been the continued dependence of the country on imports of all major non-ferrous metals in sizable quantities. With the rise in demand, a large and in many cases the entire portion of the increased demand is being met through import in face of the insufficient domestic supplies. There has been gross under-utilization of the capacity in the non-ferrous industries in India mainly due to power constraints. The time has come to seriously consider t mineral wealth available in the ocean beds, and devise ways and means of exploiting this resour Work in this direction has been started already.

The Sixth Plan envisages an outlay of Rs. 12(crores for non-ferrous sector. In regard to alumir um the accent is on continuing schemes though major new complex is envisaged in Orissa. A sha increase in the production of copper, zinc and le is envisaged by 1984-85 by completion of a numb of balancing schemes.□

(*Contd. from page* 19)

economic system. The entrepreneurs refer to tl plan when reaching their decisions. Plan provid them with long term perspective and they a less exposed to sudden temporary disruptions or vi lent periodical crisis. Planning has become a stead ing factor in the working of the market economy.

Similarly, while the struggle of different econom groups to get a larger share in the economic cak i.e., the class struggle, itself is not eliminated, plar ning has guided it in the direction of collective prog ress. Plan has imposed at least a small degree c collective discipline. Planning has become a symb of "tenancy of different groups to strive for futur prosperity through united action in the present' Indeed planning is a sure sign that capitalism i changing.

Following the French experiment, the British Gov ernment also set up Neddy (National Economic Deve lopment Council) in July 1961. In 1959, the Belgiur Government established a Bureau de programmatio to draft economic plans for 1965. Netherlands too to planning even earlier. As long ago as 1945, it se up a Central Planning Bureau, a research and plannin centre, which makes forecasts and recommendation to government to ensure balanced economic develop ments for the country in the form of annual plan into which its long term projects are incorporated Italy prepared a plan based on economic studies fo the development of employment and income for th ten-year period 1955-64. In August 1962, the gov ernment appointed a National Commission to drav up economic development programme. Japan, thougl an Asian country, must be grouped with these west ern economies in terms of levels of economic develop ment. It set up Economic Planning Agency an Council whose reports describing condtions re quired for the fulfilment of desired economic goals become plans when approved by government. Th agency produced several plans. Its 1961-70 pla called for national income to be doubled over th period at the rate of 6.5 per annum.□

(To be continued

Poor are where they were

N.R. Hota

The study shows that the poor constitute 75 per cent of the total households of the village, with 50 per cent living below the poverty line. They are mainly agriculturists owning 1 acre or less of land and a few of them are artisans. The survey revealed that the fruits of development flow more towards the richer sections and non-agricultural sectors.

BAGGI IS A composite village with 111 households, inclusive of hamlers of Marer and Gharbasada, nsisting of agricultural and trading families and a stewise distribution of Brahmins, Rajputs, Banias, heduled Castes and Scheduled Tribes. A method random sampling was adopted, taking the houseold numbers from the Panchayat register, but it as suitably altered in the field, depending upon ailability of the HOF and the need to cover reprentative samples from the different clusters of houses to which the village was divided. The samples us obtained covered 22.5 percent of the total useholds, with a spread effect covering all clusters d all castes, agriculturists, artisans and traders, d landholders of all groups.

Most of the families in the village are agricultural occupation and live off the land. Some of them ork as agricultural labour (Juari) in the fields of ners having more land, after finishing their own ltivation. A few families of rural artisans were n, engaged in trades like blacksmithy, basket weav- g, leather work etc. Some have found employment the B.S.L. Project nearby, though the number is ite reduced after the closure of the project. ree persons from the village have found their way the Middle-East, and are employed there in skilled des like turners etc.

The women are mostly engaged in household work and also work as agricultural labour in own/others' fields. Out of a total number of 111 households, 55 households have been identified by IRDP as having an income of less than Rs. 3,600 per annum and hence below the poverty line. Thus about 50 percent of the families in the village are below the poverty line.

On the basis of income, the village can be divided broadly into three groups : (1) Higher income class (2) Middle income class and (3) Poor. The poor constitute about 75 percent of the total households, with 50 percent below the poverty line. The middle class constitute about 20 percent. The rich constitute about 5 percent of the total households. The rich households are mostly dependent on trade and business. The middle income groups own land between 2-4 acres and have one or two members in employment. The poor are mainly agriculturists owing 1 acre or less of land and a few of them are also rural artisans.

Except for the 5 percent rich trading class and few technicians employed abroad, the income of the village is derived mainly from agriculture and partly from local employment. The agricultural income is at subsistence level and did not appear to generate much surplus.

Expenditure pattern

The expenditure pattern is heavily weighted in favour of foodgrains and clothing. Since the village is situated in cold climate, a family has to spend on an average Rs. 1,000 a year on clothing. This was found to have led to short-term indebtedness in cases of a few poor families.

Foodgrains were purchased for 6-4 months a year, after exhausting the domestic production. Most of the families bought pulses, sugar, oil and ghee. Milk was available for 6-8 months to 50 percent of the surveyed families from their own milch cattle in small quantities and some sold a part of the milk to augment the family's earnings. The per capita consumption of

milk among the surveyed families was very poor. People ate meat or eggs very rarely (once or twice a month). Protein intake was thus low.

There was little expenditure on education, mainly for text books. Consumption of bidi, tobacco and alcohol was quite universal particularly among the Scheduled Castes. Expenses on social occasions like marriages, births etc. were high and often being obligatory, led to indebtedness.

Forms of savings

The savings of the village are in the form of gold, silver, brass utensils and cash. There was a general reluctance to disclose them except for utensils. Out of 25 households surveyed, only one had savings of Rs. 8,000 in the Bank in the form of a 6-year fixed deposit. Nineteen households disclosed savings in the form of gold, 9 in the form of silver and 9 in both. It is reasonable to assume that the savings came primarily from agriculture and was invested as such when a family had some surplus.

The local Bank and the post office were contacted to ascertain the savings pattern. The Bank had annual deposits are found as follows :—

Agricultural class .	Rs. 2.00 lakhs
Traders . . .	Rs. 3.00 lakhs
Others . . .	Rs. 5.00 lakhs
	Rs. 10.00 lakhs (Average monthly rate—Rs. 83,333)

The small savings figures were obtained from the local post office for 12 months from September, 1982 to August, 1983. The average monthly level of these deposits are found as follows :—

Savings Bank	Rs. 28,287
Recurring Deposits . . .	Rs. 11,670
10 Yr. C.T.D.	Rs. 2,427
Time Deposits	Rs. 4,072
National Savings Certificates .	Rs. 39,671
Total	Rs. 86,127

This shows that the NSC,SB and RD are more popular and in that order. Assuming a very conservative rate of about 10 percent as the average rate of savings the total monthly income can be estimated from the figures at (1) and (2) above at Rs. 16.95 lakhs Considering the fact that the agricultural families who were surveyed did not disclose any surplus or significant sale of agricultural commodities, one can perhaps assume that the bulk of this income and savings came from trade and business, employment and to a very small measure from agriculture.

Land distribution

In 1972 the H.P. Finance & L.R. Act was promulgated giving ownership of land to the occupancy as well as non-occupancy tenants, who were tilling the land. This right was non-transferrable for 10 years, without prior permission of State.

In 1975, State Government approved a scheme called 'Grant of Nautor Land to Landless & Other Eligible Persons', under which a person with annual income of less than Rs. 3,000 and with a holding of less than 5 bighas (1 acre) or a landless person, village artisan or agricultural labour was granted 'nautor' (newly reclaimed) land to the extent of 5 bighas (1 acre) by the respective Tehsildars.

Both these measures seem to have met with partial success. In Baggi village in particular, out of 25 housholds surveyed, two were found to be landless, one a migrant to this village from Chamba District and the other due to subsequent separation from his father. All the rest had either owned land prior to 1972 or had been granted some Nautor land during 1975-76. This scheme gave about 90 per cent satisfaction to the families owning no land or less than 5 bighas of land. Nautor lands were found from government lands or encroachments.

A limited success

The land distribution pattern in Baggi village shows that while 25 households hold 1 acre of land each, the largest number, i.e. 61 households, hold less than 1 acre, constituting almost 50 per cent of the total number of households in the village. The Nautor scheme can thus be said to have had a very limited success. Sooner, when the families will split, with sons becoming major, the situation will worsen, giving rise to new landless families or families with a pittance of land. It can be seen that the pattern of landholding is not supportive of any significant surplus from agriculture.

An interesting practice of agricultural labour called Juari system was noticed during the survey. This was initially explained to be a system of mutual help. in which, during agricultural operations, one family comes to the help of another on voluntary basis. Slowly, as one probed, one, however, found evidence of food and drink and even cash compensation being paid for such work. It is perhaps a disguised form of agricultural labour, particularly after the promulgation of the H.P. Relief of Agricultural Indebtedness Act, 1976, which prohibited any custom, tradition or agreement requiring work as a labourer by virtue of any debt from any person or a member of his family with the creditor or his family.

Rural indebtedness

The survey did reveal evidences of rural indebtedness. A small number of families had got loans under government schemes like I.R.D.P., an equally small number also reported to have taken loans from 3 creditors in the village, at a rate of interest of 5 per cent month or 60 per cent annum. This practice is not openly acknowledged in view of the law mentioned above, but appears to be in vogue in a limited scale. Shortterm indebtendness to shops in buying clothing etc. was also noticed in a few cases. Some resorted to loans from shops/relations. for meeting obligatory expenses on social occasions, like marriages, child birth etc.

Style of living

The houses were found to be at least 2-roomed, with or without a kitchen. A poor family cooked within the room, while the better off had a verandah or a separate kitchen for cooking. They were generally of brick or stone-in-mud construction with slated tiles used as roof. Cement plaster or paving was noticed in rare cases, where the household was quite affluent. Almost everyone had a cow-shed.

Almost everybody used electricity for lighting and firewood for cooking. Kerosene oil was purchased in small quantity for emergencies. Firewood was also free, collected from own fields or the neighbouring jungles. Three families had biogas plants, which were used for cooking, except for one case in which it was also used for lighting. Himachal Pradesh, incidentally, has the largest number of biogas plants in the country. Among 25 surveyed households, about 30 per cent families owned either a cycle, a transistor or a watch.

An agricultural village

Baggi is primarily an agricultural village, with a gross area of about 227 acres, and cultivated area of about 110 acres. The people mainly grow three crops a years paddy, maize and wheat. Paddy and maize are grown in Kharif and the entire lands are invariably put to wheat in Rabi. Almost every household grows a bit of pulses and vegetables for own consumption. Among the 25 households surveyed, irrigated lands were found to be 20.2 acres and drylands 29.3 acres, out of a total area of 55.4 acros, 6.1 acres being barren land. Thus the percentage of wet lands can roughly be taken to be 36.46 per cent of total land owned. There are a few small nallahs providing irrigation to some lands in the village and rest are dry or suitable for fodder cultivation.

The wet lands are used mostly for growing paddy and dry lands for maize in Kharif. All these lands are again put to wheat in winter. Thus the intensity of land use is almost 180 per cent. The village had almost as much area under wheat in Rabi as under paddy and maize together in Kharif.

The average yield in the village appears poor, except for rice.

Only two surveyed families indicated small surpluses of grain that they sold. The production of foodgrains was thus by and large used to meet their own requirements.

None of the 25 families surveyed have any orchard but some of them have a small number of fruit trees around the homestead plots, more or less aimed at meeting personal consumption needs. The elevation of Baggi was not sufficient for growing apples and the fruit trees grown were usually guava, plum and papita.

Fertilizer consumption pattern

The Indo-German Agricultural Development Project (IGADP) was launched in Mandi district during the period 1962 to 1974. The use of fertiliser consumption for Mandi District went up during this period from 200 tons in 1962-63 to 7793 tons during the year 1973-74. During 1963-64, the fertiliser consumption was 2000 tons and even taking this as a base year, the growth in consumption of fertiliser in the decade upto 1973-74, comes to about 390 per cent. During the subsequent period from 1974-75 to 1980-81, the fertiliser consumption in the district went up to about 9000 tons thereby showing an improvement of about 115.5 per cent. It is again from the year 1980-81 that the fertiliser consumption has stated showing a significant upward trend. Insofar as Baggi village is concerned, one found its impact in the general and widespread acceptance of the use of chemical fertiliser by almost every family. It was further seen that cow-dung manure was also used, according to its availability, in conjunction with chemical fertiliser.

The use of high yielding seeds by the district increased from the year 1963-64 to the year 1983-84. It shows a very significant increase from the year 1976-68 onwards in respact of maize and wheat, but in the case of paddy there is no significant change. However, farmers of Baggi village were not found to be buying much of high-yielding varieties of seeds from the outside and appear to be using mostly the existing range of high-yielding varieties locally grown and retained by the farmers. This appeared to result in the depressed average yields of paddy, maize and wheat.

None of the 25 households surveyed were found to be using plant protection materials even though the total area sprayed|dusted in the district has increased from 22,887 hectares in 1973-74 to 46,674 hectares in 1983-84. This may be due to high cost of spraying and marginal effect of such practices on improving yields.

Poor use of improved implements

The impact of use of improved agricultural implements was also found to be poor. Only 1 out of the 25 families surveyed was using an improved plough. The Baggi branch of the PNB was found to have financed 4 tractors and 25 threshers in Baggi Panchayat area, but out of 25 families surveyed, only one had a thresher in Baggi and only one family cultivated its fields through hired tractors. One was thus inclined to feel that there had been no significant impact of IGADP's extension efforts, followed by the IADP, in popularising the use of improved agricultural implements. A part of the reason could be the high costing of these products by the Agro-Industries Corporation, and the other the small and long-term improvement effects of these improved implements which were not easily seen by the farmers.

Bullock-carts were found to be non-existent. One rich Rajput family owned a horse for transportation purposes. There were 14 pairs of bullocks among 25 families. Seved families were without any ploughs and 12 families without bullocks. They hired ploughs or bullocks through the 'Juari' system.

During 1970-74, a milk plant was established under the IGADP at Chakkar with a capacity of handling 10,000 litres of milk per day with 5 chilling plants of 2,000 litres capacity per day. The dairy plant has been functioning in one shift during all these years, with an average daily handling of 9,000 litres to 2,500 litres of milk during the flush and lean seasons. No further chilling centres have been added though about 14 collection points have been added to the initial 50 collection points. The scheme has been running at a loss.

It was significant to find that there was hardly any poultry population in village Baggi. Among the 15 families surveyed, except for one or two families who had a few birds in the house, no poultry was found. This confirmed the general trend of failure of poultry development schemes in Himachal Pradesh due to (a) heavy cost of food which is transported from Punjab, (b) non-availability of rice polish in Himachal for poultry food at a controlled rate as in Punjab and (c) heavy imports of eggs and meat from Punjab at cheaper rates.

In the system of interdependence with the outside, the village appeared to buy more than it sold. It bought cloth, even foodgrains, various provisions and other necessities The only ration outlet for the village is the Cooperative Society's store. It sold annually 240 quintals of sugar, 420 quintals of rice, cloth worth Rs. 25,000, and 560 fertiliser bags. No maize was procured from outside and wheat was procured in certain years of deficit only, not exceeding 300 quintals a year. In years of good production, one could presume maize and wheat to be somewhat surplus and to be sold.

How does IRDP fare ?

The IRDP scheme is being implemented in Baggi Panchayat also with effect from 1980. According to information available with B D O Sardar Block, 3 S C and 1 Rural Artisan families had received IRDP assistance during the year 1981. The R.A. had received Rs. 2,500 as loan and Rs. 500 as subsidy for umbrella assembling.

During survey, it was found that this family had still not been able to repay an amount of Rs. 1,134.00 out of the loan, since its business was not running as well as he had expected, due to dull market conditions. The other 3 families were marginal farmers and had received assistance for purchase of buffaloes, bullocks and cobbler's tools respectively. In 1982, 2 families of marginal farmers were given assistance for purchase of one buffalo each. In 1983 one S.T. family had been given assistance, also for purchase of one buffalo. The loan amounts varied between Rs. 2,700 to Rs. 3,000 with 50 per cent subsidy.

Among 25 families surveyed, 4 IRDP identified beneficiary families were located. One of them was a Rural artisan as mentioned above. His condition had not improved despite the IRDP assistance. Another was a woman who had purchased a buffalo in 1982 out of the loan and had since repaid the loan out of milk yield. She appeared to have benefited, living all by herself. A third case was of one villager who had filled the form 2 years ago but had not yet received any assistance. The fourth case had asked for a loan for sheep-rearing or bullocks, but did not avail of the loan for fear of inability to repay. Two cases of girls trained in tailoring came to notice. They were possibly trained under Trysem and are now in a position to stitch clothes for the family.

Bank loans status-wise

The PNB Branch at Baggi was found to have disbursed the loan assistance to beneficiaries in the local area as per table below:

Village Baggi (including hamlets Martor and Gharbasada)

Year	Dairy	Farm Animals	Land Dev.	Agri. Machinery	SSI	Trading & Small Business	Transport
1980-81	4	4	..	..	3	4	
1981-82	8	..	1	2	4	15	4
1982-83	1	1	..	..	1	1	1
Total	13	5	1	2	8	20	5

While the loans for small scale industries, trading and transport (second group) went to the richer sections in the village, the loans for dairy, farm animals, land development and agricultural machinery (first group) went to small and marginal farmers. The per capita disbursement of loan in the first group is about Rs. 3,225.00 while the per capita disbursement in the second group is of the order of Rs. 55,000 during the period mentioned above. This shows that fruits of economic development are in a way going more towards the richer sections than the poorer and more towards non-agricultural (trading, transport, industry) sectors than the agricultural sector.

There is no cottage industry in Baggi, but a small scale industry for manufacture of cedarwood oil has been established, with an investment of about Rs. 45 lakhs and production capacity of 57 Kg of oil per day. It provides regular employment to about 24 local persons.

There are two business families with an annual turnover of about Rs. 40 lakhs. There are two other trading houses with an annual turnover of Rs. 10-15 lakhs and another two between Rs. 2-3 lakhs. There

(*Contd. on page* 34)

India's maritime heritage

Captain G.S. Sen (I.N.)

The maritime history of India is in a way the maritime history of South East Asia. The sea area around the Indian peninsula was one of the few places where the embryo of oceanic activity and oceanic traditions developed at the dawn of history. This, it is believed, was due to the unique feature of the monsoon and the geographical position of the sub-continent which virtually occupies the 'centre of gravity' of the Indian Ocean.

ACCORDING TO Sardar K. M. Panikkar, the Indian Ocean has some of the features of a land-locked sea. Unlike the Pacific or the Atlantic, this ocean is "walled off on three sides by land, with the southern side of Asia forming a roof over it. The continent of Africa constitutes the western wall, while Burma, Malaya and the penisular continuations protect the eastern side. But the vital feature which differentiates the Indian Ocean is the subcontinent of India which juts far into the sea for a thousand miles to its tapering end at Kanya Kumari.

Asian and European literature, sculptures, frescoes and coins found in India and abroad, folklore, mythology and even the Old Testament bear testimony to the fact that during the pre-Christian era, dating as far back as 3,000 BC, i.e. at the down of Indus Valley Civilisation around Mohen-jo-Daro, Harappa and Lothal, there was considerable maritime activity between India and countries in Africa, Southern Europe, Western Asia and the far East. The link with Africa, however, dates much farther back to the Palaeolithic Age when some African Negritos, who had travelled to India across Gondwanaland, are believed to have settled in the Andamans after undertaking the first known oceanic voyage across the Bay of Bengal in primitive dug-outs.

Existence of sea-borne trade

Seals and potsherds portraying anchors, tools and kitchen implements found at many places between Southern Europe and the Far East and a huge dry-dock recently unearthed at Lothal in Gujarat confirm the existence of India's sea-borne trade with several littoral countries, especially Sumer, Egypt, Crete and Persia, between 3,000 and 2,000 BC.

Available works in the languages of the littoral States of India, the diaries of foreign travellers—Chinese, Arabic, Persian and European, evidence from archaeology—epigraphic, monumental and numismatic, and Indian and foreign art and literature also bear testimony to this.

The discovery of Indian teak in the ruins of Ur and a beam of Indian cedar in the palace of Nebuchadnezzar confirm the existence of sea-borne commerce between Indian and Babylon as early as 3,000 BC. The Rig Veda attributes the knowledge of ocean routes and sailing vessels to Lord Varuna. The Atharva Veda describes seagoing vessels of broad beam, strong rudders and faultless construction. The Ramayana contains references to the land that "grows the worm which yields the silken thread", i.e. China, and the Lohit Sagar, i.e. the Red Sea. The Mahabharata describes the naval activities of the Pandavas in adequate detail.

The 6th Century treatise, Vriksha Ayurveda, contains details of the types of timber used in ship building. According to the Greek writer Arrian, Admiral Nearchus made use of a fleet of over 800 Indian-built ships piloted by Indian navigators to transport Alexander's army of over 100,000 soldiers down the Indus and across the Arabian Sea.

Indian impact

The extent of India's influence on distant lands and sea-borne trade using ships built in this country up to the later decades of the 15th Century AD, is evi-

dent from a few little-known facts. These include a primitive compass used by Indian seafarers during ancient times, the fish machine, Matsya Yantra which consisted of an iron fish floating on oil and the fact that cotton went from India to Europe in the 5th century BC and to Japan in 800 AD.

Some of the places in South and South-East Asia have names of Indian origin such as Socotra which is a derivative of Sukhadhara (container or island of happiness), Sri Lanka which orignally was Swarna Alankar (golden adornment), Nicobar which was derived from Nak-dweep (the island of the naked).

Again the Indians are referred to as 'Klings' in Thailand and 'Telangs' in Burma and some other countries in East Asia because of the conquests of these countries by the Kalingas and Telugus. There is remarkable similarity between the Oriya and Thai scripts. The word 'calico was derived from the word Calicut which was once the focal point of India's maritime trade with the West.

The scriptures in a Buddhist temple in Japan, recited by monks even today, are in the 6th Century Bengali script. But for Davane, the moorish broker from Gujarat who piloted Vasco-da-Gama's ship 'San Gabriel' from Mozambique across the Arabian Sea to Calicut, the Portuguese would never have reached India and the course of India's maritime history would have been different.

Five distinctive periods

The maritime history of India can be divided into five distinct periods—the Hindu period extending up to the later decades of the 15th Century AD, the Portuguese period from the last decade of the 15th Century to the end of the 16th Century, the first British period from 1612 to 1830 and the second British period from 1830 to our Independence in 1947, and the post-Independence period from August 15, 1947.

Considerable maritime activity took place in the waters around India during the Hindu period. As described by Megasthenes, the royal shipyards of the Mauryas built seagoing ships of various classes. The Board of Admiralty of Emperor Chandragupta, Nao Parishad, controlled maritime trade, state shipping, port activities, levy of taxes and safety precautions at sea. Emperor Ashoka had a strong seagoing fleet and regular commercial intercourse with Syria, Egypt, Cyrene, Macedonia and Epirus in the 3rd Century BC.

Between 200 BC and 200 AD the Andhras carried out maritime trade with western Asia, Greece, Rome Egypt, China and some other Eastern countries and had even set up embassies in some of them. Roman coins discovered in India, especially in the South, establish the existence of trade between these countries even before the Christian era.

Large sailing vessels built by the Cholas, Pandyas and Cheras of South India and the Kalingas of Orissa were used for trade, passenger traffic and naval warfare. These ships were considered excellent for navigation across the oceans as their lower parts were reinforced with triple planks in order to fortify them against rough seas.

During the first decade of the 7th Century, a ruler of Gujarat sent his son with thuosands of followers in over 100 vessels to Java where they nurtured a new civilisation, immortalised by the temples and sculptures at Borobudur.

During the period from the 5th to the 12th Century, the Sri Vijayas ruled the entire sea area between India's Eastern seaboard and the Far East. Their cultural and commercial voyages took them to such far-flung area as Sumatra, Burma, the Malayan Peninsula, Java, Thailand, Indo-China, the Pacific islands up to Manila and some parts of South America. They also maintained political and commercial intercourse with the Cholas, Pandyas and Cheras.

About the same time, the rulers of Gujarat and Calicut maintained large fleets of sailing vessels for trade with Europe and West Asia. Later, as a result of jealousy between the Sri Vijayas and the South Indian empires and the consequent sea battles fought between their navies towards the end of the 10th Century, there was considerable weakening of their supremacy in the region. Mastery over the oceanic routes passed into the hands of the Arabs who thus became intermediaries of trade between Europe and India.

Marco Polo, who visited India during the 13th Century, saw large four-ship in India, some of which had as many as 14 water-tight compartments separated by reinforced bulkheads, 60 cabins below the main deck for berthed passengers and ten life-boats slung from the sides of each ship with falls and tackle, just as is found on modern ships.

The 14th Century traveller, Friar Odoric, saw Rajput ships of 1,000-ton burthen carrying 700 passengers. The 16th Century Venetian traveller Cesare di Fedrici eulogises the quality of shipbuilding in India and says that the Sultan of Turkey had several ships built at Dhaka rather than at Alexandria because he found them cheaper and better.

Arabs—a link with Europe

The Arabs, whose maritime activities were confined to trade and not suzerainty over the seas, acted as a link between India and the European markets where Indian merchandise was in great demand. This soon aroused the cupidity of the Iberian nations, Spain and Portugal, and some other Mediterranean countries and with that the quest for a direct passage to India began.

The Portuguese period began with the arrival of Vasco da Gama at Calicut in 1498. His expedition to India is not comparable to the feats of Columbus and Magellan. What makes it significant is the fact that the Portuguese were the first to lay claim to sovereignty over these waters and using them as an instrument of their national policy. To quote Panikkar again, "It may truly be said that India never lost her Independence till she lost command of the sea in the first decade of the 16th Century."

The Zamorins of Calicut whose navy, under the Marakkars, could bear comparison with the most formidable naval forces in bravery, navigational skill and naval warfare at that time, offered stiff resis-

tance to the Portuguese. But the latter's persistance, annexation of Goa and the surrounding area and mastery over the Arabian Sea ensured Portuguese dominance over the region for nearly a century.

Exploits of Maratha Navy

The exploits of the Maratha navy against the Mughals, the Portuguese and the British during this period, especially between 1664 and 1756 under the leadership of Tukoji, Admiral Kanhoji and other Angres that followed and earned a proud place for themselves and the intrepid Admirals in our maritime history. This was mainly because the great Maratha king Shivaji had realised the value of naval power and had adopted the doctrine 'Jalamaiva Yasya Balamaiva Tasya' (he who rules the sea is all-powerful) as the motto for his navy.

The Mughals had a fairly strong navy whose main wing was a fleet of ships and crafts operating from Dhaka which were used for operations in rivers and creeks for the protection of deltaic South Bengal from Magh (Burmese) and Feringhee (half-caste) pirates who had the support of the Arakan rulers. Besides, there were other ships used for trade and for carrying Haj pilgrims from Surat to Mecca. The Mughal Admiralty, under a Mir Bahar, looked after the supply of ships and smaller craft, recruitment of suitable personnel for these vessels, security of rivers and waterways and collection of port revenue. Shipping and shipbuilding, both ocean-going ond riverine, flourished during the Mughal days in Bengal, Kashmir, Lahore, Surat ect.

The first British period began with the ascendancy of British maritime power in the Indian Ocean which commenced with the arrival of a squadron of British warships and the establishment of the Honourable East India Company's Marine at Surat on September 5, 1612 which is regarded by some as the foundation day of the British Indian Navy. This nomenclature was changed in 1613 to the Indian Marine.

Bombay dockyard

The headquarters of Company's Marine was moved from Surat to Bombay in 1685 and in the following year, the name of the Service was changed to Bombay Marine. Ships for the Marine were initially built at the yard at Surat, set up in 1635, but in 1735 the present Naval Dockyard site at Bombay was acquired and developed as a shipbuilding yard. By 1775 the Bombay Dockyard was comparable to the best in the world and it was universally recognised that a Malabar teak ship built by the famous Wadia master builders at Bombay was superior to and lasted far longer than its best oak European counterparts.

HMS Trincomalee was built by the Bombay Dockyard in 1817. It is to the great credit of the expertise and workmanship of its personnel that this ship built over 167 years ago, is still afloat and under sail under the name "TS Foudroyant"—an all-time record.

The second British period began in 1830 with the conversion of the Bombay Marine into a navy which assumed the title of Indian Navy. Between 1830 and 1863, the major engagements of the Service under its new name were the capture of Aden, soon followed by the capture of Karachi.

At the time of Independence, the Indian Navy consisted of four sloops, two frigates, one corvette, one survey vessel, four trawlers, 12 mine sweepers and a large landing craft wing. On January 26, 1950, when India became a Republic, the Service came to be known as the Indian Navy.

The British period also saw the decline and fall of Indian shipping as an inevitable economic consequence of political subjugation of India. As Mahatma Gandhi said in 1928, "The tragic history of the national village industry of cotton manufacture in India is also the history of the ruin of Indian shipping. The rise of Lancashire on the ruins of the chief industry of India almost required the destruction of Indian shipping".

Undaunted by these machinations, besides the construction of docks and setting up of port trusts at the major Indian ports, the first significant event, with which began the revival of Indian shipping in the last century, was the establishment of a line of steamers from Bombay to China and Japan by Jamshedji Tata in 1890. This was followed in 1905 by the Bengal Steam Navigation Company which went into liquidation in 1910 following a sustained rate war with British shipping companies. The Swadeshi Shipping Company was set up by V.O. Chidambaram Pillai, a disciple of Lokmanya Tilak, in 1906. Three years later the Indian Cooperative Navigation and Trading Company was founded.

Revival of Indian shipping received a shot in the arm when the Scindia Steamship Navigation Company Ltd. was set up on March 27, 1919 and the SS Loyalty, the first ship of the Scindias, sailed to UK on April 5 the same year unfurling the Indian flag on the high seas for the first time in modern history. This event led to the adoption of April 5 as our national maritime day after Independence. The first Indian Merchant Shipping Act was passed in 1923 and Bombay, Calcutta and Madras were declared major ports in 1921. The training ship, TS Dufferin, was established in 1927.

In 1930 Mahatma Gandhi put forth the eleven points epitomising the Indian National Demands. One of these points was Coastal Reservation. Vishakhapatnam and Cochin were declared major ports in 1933 and 1936 respectively. In 1937 the Scindias started the first Indian Haj service which survived a fierce rate war launched by the British.

The foundation stone of the first Indian Shipyard was laid by Dr. Rajendra Prasad at Vishakhapatnam on June 21, 1941 and the first Indian ship to be built at this shipyard, Jala Usha, was launched by Prime Minister Jawaharlal Nehru on March 14, 1948.

The necessity for creating an awareness of our maritime history and preserving our maritime traditions cannot be over-emphasised. It would, therefore, be worthwhile bearing in mind what Sumati Morarjee said in her Indian Shipping Through the Ages. "Our maritime history is not a matter of chance or of casual growth; it is a heritage, but it is a heritage that must be guarded jealously and studied carefully in all its phases". □

The romance of cooperatives

R.K. Parashar

COOPERATIVES BROADLY serve two purposes. Firstly, individual cooperators, by pooling their limited resources through the mechanism of self-help, with or without outside help, are able to improve their lot and achieve a viable position in their vocation. Secondly, cooperatives provide the vehicle thruogh which individuals can be approached collectively to bring to them the message of extension and its inputs, and to facilitate the marketing of their produce. Cooperatives are, thus catalyst of socio-economic development in a resource-scarce setting.

In the second-half of the nineteenth century, with the decay of the village community and the emergence of an alien system of administration and justice, the Indian farmer had to fend for himself. He sank in the quagmire of debt and, as a result, got caught in the vice-grip of the mahajan—the moneylender. The Finance Commission, 1901, therefore, attached the highest importance "to the establishment of some organisation or method, whereby cultivator may obtain, without paying usurous rates of interest, and without being given undue facilities for incurring debt, the advances necessary for carrying on business".

Manohar Singh Gill's book* on agriculture cooperatives is, in his own words, "a story of the life of the Punjab over the seven decades of the twentieth century". It is also an account of a success story of grafting of cooperatives on the highly individualistic social fibre of the State by the British.

The book brings out how, with the help of cooperatives and canals, the face of rural Punjab has been transformed by its hardy and enterprising peasants. It points out how about 1845 the British considered the Punjab to be "a poverty-stricken tract... which would always be a burden upon the central exchequer as it would never be able to pay for its own administration." It goes on to observe that "it sounds odd today, but in 1849 the new masters of the Punjab found it as prone to famine as the rest of India; that during the forty years reign of Ranjit Singh, the land was visited by severe famines in 1802, 1812, 1817, 1824, 1833 and 1837; and that four more were to occur during 1851-52, 1860, 1868-69 and 1877-78 "before the growing efficiency of the canal system put a virtual stop to them".

It also brings out how "the disappearance of families and the rise in the prosperity of farmer, was accompanied, strangely enough, by a sharp rise in the indebtedness to the emerging class of sahukars or moneylenders. "It notes : "A combination of covetousness and ultra-shrewdness on the part of the lender and ignorance and improvidence on the part of the borrower, soon helped the rapid impoverishment of the farmer."

In the process of tracing the development of agriculture cooperatives in the Punjab, the author draws attention to different drawbacks of the taccavi system, namely, inadequate funds, designed to meet short-term needs, often in times of distress; remorseless recovery of the revenue staff; and finally driving the peasant to the door of the moneylender. He highlights the benefits accrued to peasants by the Punjab Alienation of Land Act of 1901 which they today regard as the Magna Carta of their freedom. But for this Act, he notes, the Punjab might have long ceased to be the land of peasant proprietors.

Though the locale of the story is the Punjab, its sweep goes beyond. Gill talks of "the restless decades when the empire was sought to be overthrown"; goes into the womb of history centuries back; draws attention to the Mughal emperors, and above all to Ranjit Singh—a great king, and the only king the Sikh jats produced Raja Suraj Mal of the Hindu jats. And the deftly weaves all these heterogenous pieces into his story to lend it not merely romance but flow, swift and smooth.

We are inclined to believe that the real contribution of the book lies not in the fact that it tells us of the processes and debates, hopes and frustrations, and,

*Agriculture Cooperatives—A Case Study of Punjab, Manohar Singh Gill, Vikas Publishing House Pp. vi+560, 1983. Price Rs. 150.

above all, of set-backs and successes of agriculture cooperatives in the Punjab and how they were alien transplantations in the native soil and how the Punjabi genious nurtured them into an healthy institution which Jawaharlal Nehru considered as one of the three basic pillars at the base for the development of rural India; it lies in the lessons it may have for those engaged in similar endeavours in other States in India and developing countries in the Middle East, South East or elsewhere.

Overall, it is a book larger than the agricultural cooperatives it describes in detail with gusto and with the firmness of grasp that only a person with first-hand knowledge of the subject can have. On agriculture cooperatives, it is a source book written by one inspired. Its lessons are relevant beyond the confines of the Punjab. The Punjab comes alive in it in all hues of different seasons and at different hours of the humdrum day. A drab subject becomes an enchanting reading at the hands of this gifted writer.□

(*Continued from page* 29)

are a number of shops in the village, the break-up of which is as follow :—

Halwai	8
Vegetables	2
Pan, Bidi	1
Cloth	6
Karyana	8
Tailoring	3
Leather	1

The shops apart from the owners, engage one or two helpers and thus provide employment to about 50 to 60 persons.

Conclusions

During 1964-78, the BSL Link Canal Project had provided work to almost every family in Baggi village. With its closure, there has been considerable unemployment and a fall of about 25 per cent in the living standards of the people. This canal has passed through the village for which lands have been acquired, but it has not provided any irrigation to the local area. There is a proposal now to sanction a Baggi Lift Irrigation Scheme at an estimated cost of Rs. 302.70 lakhs to provide irrigation to an area of 2410 hectrares in Bahl Valley. If this Project is expedited, it will not only create employment for local people, but will also raise the foodgrains production in the area by about 5,000 tonnes.

There are about 300-350 houses in the abandoned BSL Colony in Baggi, with water supply and electricity available, lying as an uncared and unutilised resource. If some small scale industry or assembling unit can be set up there, it will provide considerable economic benefit to this region. □

Success Story

One Hut, One Light

The Electricity Department of Pondicherry is implementing a scheme called 'One Hut, One Light', under the Hut Electrification Programme. This scheme is primarily intended to improve the condition of hut dwellers, especially of Scheduled Castes.

Eligible huts for this scheme should have thatched roof and mud walls with a living space of more than 200 sq. ft. A concessional tariff is applied and only Rs. 2.50 is collected per month in advance from the beneficiaries of this scheme.

645 huts have been electrified so far. It is proposed to electrify 2500 huts during 1983-84.

(FPO-Pondicherry)

When both think alike

Shri Karam Singh of Village J.J. 3, Tehsil Padam Pur, Distt. Sriganganagar (Rajasthan) is only 35 years old while his wife is 30 years old. They have two sons aged 5 years and 6 months respectively. Shri Karam Singh is a mason by profession. When asked how he managed to have such an ideal family, he said that he was inspired by a film shown in his village which stressed the need and the advantages of spacing the family.

Shri Karam Singh's wife is no less progressive. When the second child was born to her, she expressed her desire for laparoscopic vasectomy. When her husband took her to the hospital, the Doctor tested her and advised against the operation as she had some health problems. Thereupon Shri Karam Singh offered himself for vasectomy. Shri Karam Singh hopes to give his two children good education so that they may prosper in life.

(FPO-Sriganganagar)

Our world and the people in it

WORLD POPULATION may reach 500 crores by 1988.

This is the analysis of the World Population Data Sheet (1983 edition—21st) prepared by the Population Reference Bureau of the United Nations Development Forum.

World population, according to the Report, was estimated to be 467 crores in mid 1983. The figure covers all member countries of the UN and all other areas which have populations of 1.5 lakh and above.

Although birth rates fell in some developing countries over the past 20 years, longevity rose.

The Report classifies world countries into two groups—More Developed Countries (MDCs) and Less Developed Countries (LDCs).

Birth rate in less developed countries is 33 per 1000 as compared to 15 per 1000 in more developed countries. Death rates are almost similar for the two—12 per 1000 for the former and 10 per 1000 for the latter. However, infant mortality is 93 per 1000 in the less developed countries as against 19 per 1000 in the others.

Women in the developed countries have less than two children during their reproduction lifetime. In the developing countries, women may be expected to have four to five children.

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—a case for economic democracy

by

VASANT SATHE

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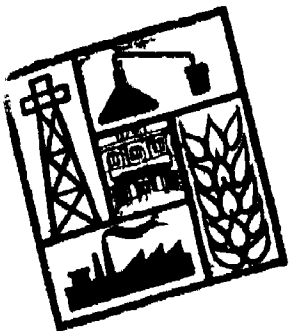
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A profile of agricultural development

NEXT ISSUE
Shaping India through planning
by A. M. Khusro

Funds for flood control

THE CENTRAL GOVERNMENT has made provision of Rs. 1,045 crores for flood control during the Sixth Plan. This includes Rs. 175 crores under the Central Sector. The total expenditure on flood control during all the earlier Plans put together stood at Rs. 976 crores.

About 40 million hectares of land are flood-prone, while 21.5 million hectares are estimated to be barren and uncultivable. Although flood control is a State subject, a Centrally sponsored scheme of integrated watershed management in the catchment areas of the flood-prone rivers in the Gangetic basin has been in operation in Himachal Pradesh, Haryana, Rajasthan, Uttar Pradesh, Madhya Pradesh, Bihar, West Bengal and the Union Territory of Delhi since 1980-81.□

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Our Contributors

Vasant Sathe, Minister for Chemicals & Fertilizers, New Delhi; **R. P. Singh**, Scientists, Indian Agricultural Research Institute, New Delhi; **Dr. Donald B. Erickson**, Deptt. of Economics, Kansas State University, USA; **N. K. Gandhi**, Consultant,, National Productivity Council, New Delhi; **Tej Prakash**, Freelancer, New Delhi; **N. S. Balasubramanian**, Prof. of Economics, N. M. S. S. V. N. College, Madurai; **Madeeha Sherwani**, Lecturer, Deptt. of Commerce, Aligarh Muslim University, Aligarh; **V. C. Harris**, Research Scholar, Instt. of English, University of Kerala, Trivandrum; **P. R. Dubhashi**, Director, Indian Institute of Public Administration, New Delhi; and **G. K. Ghosh**, Director, Khadi & Village Industries Commission, Dimapur, (Nagaland).

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TOWARDS SOCIAL REVOLUTION
a Case for Economic Democracy -
VASANT SATHE

A Serialisation 1

A philosophy of life
Thinking and realisation

WHAT DISTINGUISHES MAN FROM OTHER SPECIES is his capacity to think and act according to his intellect. There may be a degree of intelligence in other forms of life, but the human being seems to be not only capable of reasoning but also of a larger degree of creativity. Even here, we see different levels of growth and evolution. If you take the Ongi tribes of the Andaman and Nicobar Islands, for example, you find them living closer to natural instincts for survival. rather than by intelligence.

The whole story of the evolution of man has been mainly one of the evolution of his mind or intellect, his efforts to understand the world outside, including his fellow human beings and also the world within, that is, his constant query about what he is and why. This has been the great question that has motivated human beings to discover, invent and dwell in depth upon the research for the unknown.

All of man's capacity, in every field or walk of life, all his conflicts and efforts to seek harmony with forces outside as well as his desire to seek peace and tranquillity within, basically originate from this one urge: to know the reason for his existence. From the moment he realised intellectually that a certain combination of factors can create or change forms—when he sowed a seed, he saw the plant sprout and then yield seeds again—he felt that behind everything that existed, there must be a cause. In the early stages of his intellectual evolution, whatever he saw as being more powerful than himself and capable of affecting his life, indeed his very existence but beyond his understanding, such as. fire, clouds and rain, or the sun which gave sunshine and warmth and light, he described as supernatural powers. Knowing from his experience with his parents and elders that submission pleased and earned rewards. he thought in terms of prostrating himself before these highly superior agencies and called them 'god'.

But in the course of his evolution, as he learnt and understood what the clouds were. as he became capable of creating fire and learnt about the composition of the universe to the extent he could measure and observe, these things ceased to be awesome gods and became everyday objects. The whole concept of 'god' emerges therefore from the co-relation between the ignorance of man and his effort to know and seek the unknown. I think his biggest and the most original invention has been this concept of god. It has served a useful purpose. It has acted as a sheet-anchor for the ship of the mind. When in doubt or confusion in the storm of life, man could always fall back on this concept and thus find mental solace

In the process of evolution, while man was trying to know more and more about the outside world, such as his environment on earth and in space, as he went on analysing and organising his thoughts, then storing his thinking, his ideas, his experiences—first, by drawing them on the walls of his caves, then by repetitive learning by heart, reproducing them and teaching others, later, when he learnt the art of writing by the written word and through books—in all these processes, the main question about the supernatural persisted Now, when he has come to know that the sun, the moon and the other objects that he saw in space or in the heavens as he called them were only objects and did not seem to have any of the powers of creation or destruction with a will similar to his own, he began to reason that there must be a power superior to all these objects in the universe. This power he further concluded must have control not only over the outward objects but must have a mind superior to his own and must possess the power to create as well as change the forms of its creation. This, in fact, was nothing more than the extension of man's earlier thinking.

All this effort to find a co-relationship with creation as well as the creator through his reasoning is what he termed 'spiritualism'. His effort to find out more and more about the objects that he sees and about every existing matter outside his mind is what he called 'science'. Yet, both these activities flow only from his mind, from the knowledge and experience which he has acquired. In short whatever was unanswered and apparently unanswerable became spiritualism while the answered and the answerable became science.

Today, scientists have learnt about the outer extent of the universe, the galaxies and the Milky Way, the Black Hole and the expanse of time and space; they can conceive of the 'billions of light years' as the distance between two universal objects; they know about the smallest cell which creates life and have now even come to the point of creating this cell by genetic engineering; they have discovered that the smallest particle of matter is not the indivisible atom but the divisible electron and proton which are not in the shape of matter, but in the shape of waves.

Yet, man, even as scientist, wants to see beyond and to find out the reason for all that exists. But not finding an answer, he calls what may lie beyond as the supernatural. Now, he says that this supernatural which he cannot fathom through his mind or through his intellect, must be incapable of being understood by the mind or the intellect and therefore must be beyond the mind. This was precisely how the seers argued thousands of years ago. They had also come to the conclusion from the knowledge of the universe which they had acquired by then that there was a world they could not perceive through the mind, a world which had not yet been discovered and that therefore it was something which could not be realised by the mind.

All those persons who claimed enlightenment and realisation and had an impact on human life and civilisation believed that there was a power above all powers which was the supreme creator of the universe, and which had a will and a mind far superior to those of man and therefore beyond his comprehension. They thought they could communicate or co-relate with this power and achieve what is commonly called 'self-realisation'. But come to think of it, this also was an activity of their own mind. In the human anatomy, the seat of all ideas and experiences is the brain. The cerebral activity and the ideas emanating therefrom we call by various names such as mind, intellect, thinking, soul, intuition, consciousness, supraconsciousness. But call it by whatever name, every experience is known through the mind. At least till now we do not know whether, if the brain is removed or the head severed, any other part of the human anatomy has the faculty or the motor which enables a man to think and whether the body can operate without being guided by that brain motor. Till another advance in scientific discovery proves otherwise, we can safely presume that the seat of all thinking is what is called the brain.

Hence, when the man seeking realisation goes to a mountain or into a jungle or sits under a tree and meditates, concentrates his mind on wanting to know the power beyond power or a mind beyond mind, it is still an activity of his own mind. It is this which conjures up a superior power. Therefore, it can be said that the superior power is itself a creation of his own mind. Perhaps he does this without knowing that he is doing so. Then having had the experience, and come to a conclusion, he goes back and co-relates it with life and other fellow beings. This is how he becomes a prophet. The prophets or the seers of old would have had no significance if, after having achieved realisation, they had themselves disappeared from the scene. It is those prophets or men of realisation who have co-related their experience with the life of others, those who have communicated what they considered or came to understand as the will of the supreme; it is they who have survived and who have influenced the life of human beings and in that sense become relevant to them. The same is true of the scientists who have made discoveries or inventions, related them to life and put them to the use of fellow human beings.

The confusion starts when the man of realisation either says or is alleged by his followers to have said that what he had experienced was the only truth; that what he had termed directions or instructions of the supreme constituted the only truth and that the experience of any other human being different from this experience was the 'untruth'. All religions have been based primarily on this concept of the unknown', while all conflicts have arisen from those who claim to know the 'unknown' and having communicated with the 'unknown', that they alone held the key to truth. It is not the prophets or enlightened men themselves, however, who have ever asserted that they alone knew the truth, but their followers. It is here that the conflict begins. When these prophets laid down a code of conduct based on their experience and enlightenment for their fellow human beings, it came to be known as religion. In human history different prophets laid down different codes of conduct founded on their knowledge of the social conditions of their times. They prescribed certain basic norms for human behaviour which they thought would be conducive to happiness. These have been common to all religions, like love, compassion, tolerance and understanding.

The 'Known' and the 'Unknown'

All mysticism, in the ultimate analysis, is the power supposed to be acquired by an individual by various mental exercises and discipline from the unknown, supreme universal source of all power in existence. What impresses the common man is not the philosophy or the rationale of such a man's thinking, but the miraculous powers that this mystics supposed to have acquired. The world is full of such persons before whom even intelligent persons belonging to rational disciplines seem to fall prostrate. They seek from them cures or reliefs or mundane gains mainly because they feel that these persons have certain supernatural powers which cannot be acquired by other scientific disciplines, such as, medicine.

It is, therefore, necessary to first consider whether (a) there could be such a universal power, and if so, what would be its character, (b) if that character, could be described or conceived, and whether an individual could establish communication and contact with that power, and (c) whether having done so, he could derive material advantage from that power in the form of being able to produce results other than those from the ordinary, known scientific methods. In short, could he acquire what is called the power of performing miracles ?

This is the source of most of the confusion that exists about mysticism. If we start backwards we could

put a question, as indeed one of the great mortal saints of the recent past did to a person who was supposed to have done penance and meditation for over 300 years and had acquired the powers of performing miracles called (siddhi), which enabled him to walk on the waters of the Ganges : the sage asked him why he had to spend 300 years in acquiring that power when an ordinary boatman could do it for a paltry sum by carrying not only himself but many others with him across the river! The moral of the story is that if after having established direct communication with the 'unknown' and 'unknowable' supreme, which has control not only over all living beings, but the entire universe of time and space, all that this individual does is to only produce ash or gold rings or watches or a bottle of whisky already manufactured somewhere else, then is this to be called the manifestation of the 'supreme' at all?

Then again, it is alleged that these 'godmen' or mystics have the power of healing! The simple question one may ask is why is it that they can usually heal the rich. Why cannot they visit a general hospital every day and, just by moving the hand, cure all the patients of their diseases? But like the astrologers these godmen also have a ready answer. The astrologer says that his predictions go wrong because the person concerned has not given the exact time in minutes and seconds of his birth : the mystic godman says that unless the patient has complete, unquestioning faith and surrenders all his intellect, reason and everything else to the godman, the godman cannot grant him the favour prayed for. So, the fault will always lie with the individual patient or seeker of favours and not with the mystics. Amazingly, neither the astrologers nor the mystics have ever been able to demonstrate their powers in an ordinary rational manner. But, then, you are not supposed to judge these people by reason at all; the basic premise being that they are the representatives of a power which is beyond reason. Yet, they live in flesh and body, and, when they themselves fall ill, are treated by ordinary doctors and surgeons. These representatives of the supreme also breathe the same ordinary air and oxygen as other people do and they have to eat the same ordinary food for survival. But again, these are all arguments emanating from reason, and reason is banned in the field of mysticism!

I have been visited by such godmen and also by astrologers who always seem to know not only the past but the future as well. No wonder they have got these powers from the supreme! If their predictions were to have really come true, I would have been dead at least ten times before. Practically every three years a person would predict that the next two years were very crucial to my life, knowing fully well that, after all, a human being—a human body—is bound to die one day or the other. That is the only certainty of the whole cycle of change as in every form of life. Hence, one can always predict anyone's death allowing for a margin of either a few months or a few years. If by a stroke of coincidence the person were really to die then the prediction of the astrologer or godman or god woman is seen to have come true; if he does not die, then the person is supposed to have survived because of the blessings of the godman or the mystic or due to the mistake in the date or time of birth.

People believe in superstition and in fortunetellers like astrologers and palmists, although it has been repeatedly proved that they all practise crafts which bank upon human credulity. For example, at an All-India Seminar on Astrology held in New Delhi in December 1982, not a single astrologer predicted such a total defeat for the Congress (I) party in the Andhra Pradesh and Karnataka Assembly elections held soon after. Like the national newspapers, they also presaged that although a dent would be created in Andhra Pradesh, the Congress (I) would win, albeit with a reduced majority, and it would win comfortably in Karnataka.

Thus, if the astrologers could not predict an event a few days ahead, to believe that they can do so years ahead and for a whole lifetime seems to be the height of absurdity.

It is really amazing how even intelligent people can be so gullible. Why? This is mainly because of life's imponderables, such as, an individual acquiring sudden wealth from a lottery or an inheritance or a position of importance which he normally would never have got by hard labour or honest effort. One could ascribe this to the exploitative character of a society where, by indulging in all sorts of dubious dealings, smuggling, cheating and corruption, a person could acquire sudden riches or positions of authority. Yet, the man who does this will attribute his so-called windfall to the blessings of some deity or some godman, living or dead, and ascribe it to be the power of miracles. When someone sees such bounty coming to another, it spreads by word of mouth like wildfire and everyone becomes eager to acquire the same bounty by resorting to the same quick, short-cut means through the miracle man. We do not wait to ponder for a moment that lotteries or winnings in gambling by their very nature come to the lot of one out of thousands who take a calculated risk and put their small or big stakes on that one chance. How this can be co-related to the supreme is really the 'supreme' question. For it is this very logic which gets extended to the entire gamut of mysticism, howsoever beautifully it may be shrouded in jargon by using words such as 'transcendental'.

But, as I said earlier, the unknown was called 'god' when given the attributes of good. When given the attributes of evil, it was called the 'devil'. Yet, it was man who created the abode for the gods in the form of heaven and also for all evil in the form of hell. It is he who has conceived that all that is considered taboo or forbidden on earth would be available in heaven and if he did not behave as told on earth, all sorts of tortures would have to be borne in hell.

Thus, the whole cycle of establishing a communion with the supreme and deriving some powers from the supreme is a myth because the moment you say there is a supreme power, known or unknown, knowable or unknowable, to be conceived by the mind or is beyond the mind, to be experienced and perceived by the conscious or the supraconscious, then immediately arises the next question : 'If there is some such power, from where does that power derive its power?' You could go on endlessly from one universal power to another, and then to resolve this chain of argument, you yourself will give the same answer given earlier by seers, that the 'unknown' has neither beginning nor

end, that it is self-created, that the 'unknown' is ultimately 'you'—'you' means your mind, because it is in your mind that the whole thinking process seeking to know the unknown begins and ends.

The entire evolution of human civilisation has been, in fact, the effort to utilise the faculty of the intellect, to know more and more about all forms of existence, and then, through this knowledge acquired by the scientific method, to utilise and co-relate as well as to find a proper adjustment and harmony with these forms. This, in one word, is 'science'. It means establishing the cause, effect and application by experiment and proof, so that by the use of the same method a particular result can be obtained repeatedly. Thus, right from the beginning, by rubbing two sticks or stones, fire could be produced, by putting a few stones in a particular manner on each other, a house could be built, by sowing certain seeds in the field and by watering them, food could be produced, by the use of wool taken from an animal, clothing could be produced, by a certain method of cutting the wood, either a boat or a wheel could be produced, by trial and error in the use of certain herbs, ailments and diseases could be cured, and when, by tying a string to a bamboo staff and putting another smaller one across, man learnt that he could shoot it with such force and to such a distance that he could hit either a beast or an enemy—that became the bow and arrow, and with this started the entire growth of armaments. It has taken thousands of years for man to evolve to the present stage where he can send rockets and spaceships right up to Venus and Mars. He has practically acquired control over most of the diseases which have plagued human life. And this inquiry continues.

It is basically from the fundamental premise of the existence of the 'unknown' and the supposition that a few individuals had the power of communication either by self-realisation or because they were the direct heirs of god that led to the birth of all religions. Religions are primarily a code of conduct for day-to-day life laid down for human beings for harmonious living in the society of their fellow beings and also in their relation to other forms of existence. But the founders of these religions either claimed for themselves knowledge emanating from the direct commandments and instructions from the unknown (called by whatever name), or said that they were only communicating these instructions and the will of the unknown to be obeyed and followed without question by all the creatures who are the creation of the unknown. Any deviation in following the instructions would invite serious punishments, including death, which in the ultimate analysis is the only thing a human being really fears. He is also afraid of material deprivation; therefore all religions follow a code centring round this fear and the countervailing assurance of favours, of course, from the unknown, but acquired through the intermediary or the representative of the unknown.

But, as argued earlier, if the entire creation was the work of one creator, then it is difficult to understand as to how there could be different representatives stipulating such diverse codes of behaviour for the creatures of this creator. This argument can go on ad infinitum, but it can never satisfy those with blind faith in their beliefs that there are certain things which must not be questioned and must be accepted without reason and without thought. As long as this basic blind faith and this confusion prevail, all other resultant confusions, whether in the name of religion, fundamental or otherwise, will continue to confound human society.

Those who are supposed to have had some contact with the supreme unknown fall into different categories. In one category are those who have had the realisation that the best way to go through life with the least suffering and pain is to love—love not only fellow human beings but the entire creation. This has been the common factor in the realisation of almost all such persons. From this category of saints and prophets each has expanded upon the theme of life by giving examples from the experiences of their times. The other category is of those who lay claim to know not only the mind of the unknown but even to reproduce the very language and instructions of the unknown as narrated to them. They have laid down certain codes of conduct for life in the form of the sacred books. It is only when they or their followers assert that their texts embody the only truth and will of the unknown and therefore anyone going contrary to them would be acting against the will of the unknown that conflict arises. Historically, this has resulted in the greatest destruction of man by man and continues to do so even today.

If one were to analyse this rationally, one would find that even in these set codes, the examples drawn by these enlightened persons pertained to the time, situation and pattern of life of the society that they were acquainted with. It is a pity that their followers continued to use the same yardstick and examples for thousands of years even when the social situations and patterns had changed. The worst aspect in this context is the obstinacy and the refusal to reason. It is amazing how persons who are otherwise intelligent and can argue logically about many other matters, become fanatically obstinate and refuse even to discuss, leave alone question, the premise of what is called 'religion', the concept of the unknown as defined by the enlightened and a code laid down hundreds of years ago. This is in direct contradiction to the progress achieved in the field of science through continually posing questions till that answer is found which can be demonstrated by practice and proof, which is only then accepted as being anywhere near the truth. Still, the inquiry continues.

For example, science establishes that electric power generated in one manner can be transferred in another way from one place to another; it can then be used either in the form of a bulb for the purpose of lighting or in other gadgets such as the radio, refrigerator, cooker or telephone. This one accepts to be correct because similar knowledge and methods applied in any part of the world have yeilded the same results.

In mysticism, this very process is missing, the basic premise being that the unknown is known only to the mystic or the enlightened. Therefore, the enlightened one cannot (a) describe it and prove it or (b) transfer his experience or knowledge to others because this unknown cannot be known but can only be experienced and realised by each individual. Certain practices such as meditation in various forms and *yoga* have been

prescribed by various persons for the achievement of self-realisation. But they remain essentially exercises in individual accomplishment. Let us take two parallel examples : a technologist or an engineer studies for 20 years, then, with the help of people similarly trained, i.e., in the knowledge of how to use other objects, produces a device called an aeroplane with which he can fly in the air, and within a few hours, go from one spot to another that is thousands of miles away. After this, not only he, but all those who are trained in the process and have the same knowledge as he does, can do the same.

Now, it is said by those who know of transcendental meditation and other forms of *yoga* that with a certain kind of training, levitation can take place, meaning thereby that a person can lift himself from the ground without the help of any other mode or force. One can presume this to be possible, but cannot really believe it because no one till today, except in hearsay, has demonstrated this power while every scientific experiment and achievement has been accepted only when demonstrated, and not just once, but established repetitively. Nobody would accept that a person could fly in the air with any contraption till it was demonstrated by the Wright brothers. Nobody would have accepted it until they saw for themselves that the mode of transportation by animal-drawn vehicles, which had existed for over a few thousand years, could undergo a dramatic change by the introduction of the steam engine, the combustion engine or of the automobile. The field of mysticism has continued to imply essentially therefore acceptance by blind faith. People sometimes talk of having seen light or visions, or personages who even communicate with them. But surprisingly enough, if one gives this a moment's thought, one sees that these images or visions have always been in the form in which either consciously or subconsciously this individual had been visualising the unknown. 'It' comes in the form of the cosmic dance of Shiva or in the form of Nadabrahma—universal sound—or in the form of a woman or a person with a beard and a halo or in the form of some bright light.

But isn't this similar to what one often sees in a dream? It is possible to explain this in a rational, scientific manner with the help of psychology, including para-psychology, that one could, by constant mental stimuli, create a stage of self-hallucination or self-hypnotism—in other words called *samadhi* or trance—and see the images that one wants to and, as in a dream, have the vision even talking to one. Otherwise, how is it that the vision has invariably talked to the man of enlightenment and realisation in the language which he understands? Unless, of course, one can think in terms of simultaneous interpretation or conclude that the supreme is a great linguist. This sounds ridiculous as indeed it is.

Throughout the process of evolution, we find that man developed his mental faculties in order to describe the world that he saw around him—the oceans, the waves, the mountains, the rivers, the scenic beauty, the flowers—by corelating them with his experiences of them in his mind; so he described them in such beautiful words and expressed his emotions in relation to fellow human beings in a manner that turned them into poetry or literature. When he noted down his experiences and details of happenings and events, those became history. When he experimented with matter, its mutual interplay and reaction when analysed, that became physics or chemistry. When he devised contraptions beginning with the wheel, the process went on to become the science of engineering. You can extend this to other spheres like painting, music, the social sciences, political science and economics. As an individual, however, man continued to rely on the unknown when confused or when he could not find a reasonable answer. Yet, his entire growth can be attributed mainly to his inquiring mind and his wanting to know more and more. It is only to the extent that he believed that he could bring about a change both in his relation to the objects called 'matter' and in his relation to his fellow beings that he has been able to achieve any progress; and to the extent that he retained a blind faith and accepted a situation over which he had no control, he allowed his condition either to stagnate or even get worse through exploitation by his fellow human beings. ☐

(Next Issue : The satisfaction of seeking)

Mahouts become elephant owners

Two Barjin mahouts have become tusker-owners, thanks to the Integrated Rural Development Programme. They are Shri Krishnan Kutty of Konathu and Shri K.P. Kunju Kutty of Kaachathu Kullinmal,, Allappey District, Kerala.

Krishnan Kutty and Kunju Kutty have since long been mahouts with elephants owned by others. The life of a mahout is full of risk and uncertainty. But Krishnan Kutty and Kunju Kutty cannot think of a life separated from elephants.

As recommended by the BDO Mavelikara, the Agricultural Co-operative Soceity of Kallumala and the Mallumala and the Mavelikara branch of the nationalized Overseas Bank there helped them with an adequat advance under I.R.D.P. at a low rate interest to realize their life-long dream to own tuskers

Krishnan Kutty and Kunju Kutty were thrilled with joy when they were formally presented with the elephants recently by a State Minister.

In the good old days in Kerala, possession of a tusker was regarded as a status symbol of rich aristocrats—mostly Brahmin and other cast Hindu families.

P.N. Krishna Pillai
Field Publicity Officer,
Alleppey.

A profile of agricultural development

R.P. Singh and Donald B. Erickson

The progress of agriculture during recent years has been quite impressive. Though India has made considerable progress in bringing up an infrastructure for development of agriculture, the authors say, we still have a rather narrow base. This is true also of the level of input use and resource utilization.

AGRICULTURAL PRODUCTION constitutes he single largest economic activity in India. The griculture sector contributes nearly half of the naional product, provides jobs to about three-fourths f the population and supplies raw materials to the ndustrial sector. Its contribution to the foreign exhange earnings is large.

The country entered an important phase of agriultural development in the early 1950s with the aunching of the first five-year plan for economic evelopment. Since then, agricultural production has hown sizable improvement despite year-to-year flucuations. There has been a tremendous increase in ie output of foodgrains and other crops.

Besides crops, the other important segment of the ndian agriculture is raising animals and livestock. bout one-sixth of the cattle, about one-half of the uffalo, and one-fifth of the goat population in the orld are raised in India. Animal husbandry plays a important role as cattle and buffalo are the main urce of drought power in agricultural operations id rural transportation. They supply essential food ke milk, meat and many useful by-products.

The progress of agriculture during recent years has been quite impressive. The growth rate of agricultural production for the period 1967-68 to 1978-79 has been estimated at 2.81 per cent per annum. For the same period, the production of foodgrains has increased at the rate of 2.77 per cent and of cereals, at 3.05 per cent.

As all these growth rates exceed the growth rate of population (estimated to be a little above 2 per cent), the cumulative effect of the higher growth of production has been to create a feeling that we have made satisfactory progress in agriculture, at least in the production of foodgrains. This feeling is further strengthened by the accumulated stocks of cereals. A detailed examination of growth in output of agriculture, however, reveals that the situation is not quite satisfactory and much remains to be done.

Land utilization and cropping patterns

During the years 1950-51, the net area sown was reported to be 118,746 thousand hectares, 42 per cent of the total reported area of the country. By 1978-79 this increased by 21 per cent used for crops. The increase in the gross cropped area i.e. area under different crops on a given land in a year, is 10 per cent higher than the increase in net area sown i.e. area actually cultivated in a year. This shows that opportunities for double and multiple cropping in the country are increasing over years.

Table 1—Pattern of Land Utilisation

Year	Net Area Sown	Gross Crop Area	Total Food-grains Area	Net Irr. Area	Gross Irr. Area
				(Thousands of	Hectares)
1950-51	118,746	131,893	97,321	20,900	22,600
1960-61	133,199	152,772	115,581	24,700	28,000
1970-71	140,245	165,791	124,316	31,100	38,190
1978-79*	143,800	173,300	128,121	39,090	48,480
	+(21)	+(31)	+(32)	+(87)	+(115)

Figures in parentheses denote per cent changes in 1978-79 over 1950-51.

Source: Directorate of Economics and Statistics, Ministry of Agriculture and Irrigation, Government of India.

*Provisional.

The country had about 18 per cent of the cultivated area under irrigation during the year 1950-51, which has increased to about 27 per cent in 1978-79. The figures of gross cropped area reveals that even the entire irrigated area has not been covered by double cropping. There is slightly higher percentage of increase in the total foodgrains area, than the gross cropped area, but the fraction of foodgrains area to total gross cropped area in the country remains almost the same throughout. This implies that the higher fraction of the newly developed land has gone to foodgrains production.

Table 2—Area under principal crops

Year	Food grains Cereals			Food grains Pulses		Total Foodgrains
	Rice	Wheat	Others	Grams	Others	
				(Thousands	of	Hectares)
1950-51	30,810	9,746	37,674	7,570	11,521	95,321
1960-61	34,128	12,927	44,963	9,276	14,287	115,851
1970-71	37,592	18,241	45,949	7,839	15,695	124,316
1978-79*	40,196	22,641	41,736	7,871	15,678	128,122
	+(30)	+(132)	+(11)	+(04)	+(36)	+(34)

Figures in parentheses denote the percent change in 1978-79 over 1950-51.

Source: Directorate of Economics and Statistics, Ministry of Agriculture and Irrigation, Government of India.

*Provisional.

A cursory look at the land use pattern shows foodgrains predominate. In India there is no pattern due to variety, with foodgrains constituting three-fourths of total cropped area. This position has not changed much since 1950-51.

Rice is the most important foodgrain crop accounting for nearly one-third of the area under food grains (Table 2). Next in importance is the pulses groups, of which gram is the major component. The position of all pulses in total cropped area ranged around 18 to 20 per cent from 1950-51 to 1978-79. Thus, within the group foodgrains, there is not much variety. The differtnt crops are noo evenly balanced with respect to the cropped area.

The large cropped area devoted to foodgrains suggests a grim situation in another sense. While rising population needs more foodgrains, larger areas going under cultivation shows that productivity of land does not increase pari pasu with our needs or technological possibilities.

Change in cropping pattern

Some important changes in the cropping pattern are occurring even though these have not greatly affected the overall picture of crops in the country. Wheat acreage has risen spectacularly, shooting up 132 per cent, compared with a rise of 34 per cent for total foodgrains crops. The increase in land under rice was small at about 30 per cent. The average increase in land planted to all pulses was the smallest at about 23 per cent. Thus, the picture of cropping patterns shows a few changes of minor significance.

Growth in production and productivity

An analysis of Table 3 shows that among foodgrains, rice occupied the foremost position. It contributed nearly 45 per cent of total grain production. Next important in the cereal foodgrains is wheat. The portion of this crop in total foodgrains ranged around 13 to 27 per cent during the period 1950-51 to 1978-79. During the same period, pulse output declined to 8 per cent of total foodgrain production. This has led to a chronic scarcity of this nutritionally important foodgrain, resulting in high prices and subsequent decline in the country's nutritional standards.

Table 3—Production of Principal Crops

Year	Food grains Cereals			Foodgrains Pulses		Total Foodgrains
	Rice	Wheat	Others	Gram	Others (Thousands	of Tons)
1950-51	20,576	6,462	15,376	3,651	4,760	50,825
1960-61	34,574	10,997	23,743	6,250	6,454	82,018
1970-71	42,225	23,832	30,547	5,199	6,619	108,422
1978-79*	58,829	34,982	25,389	5,835	6,335	131,370
	+(186)	+(441)	+(65)	+(60)	+(33)	+(158)

Figures in parentheses denote the per cent change in 1978-79 over 1950-51.
Source : Directorate of Economics and Statistics, Ministry of Agriculture and Irrigation, Government of India.
*Provisional.

It is evident from the table that the growth in foodgrains production has been small, considering the potentials of agriculture and the country's food needs. The rise in production is split into two major components. The increase in cereal foodgrain production is much larger than that in the case of food grain pulses as shown in Table 3. These figures also suggest that for quite a number of individual crops, the performance has not been of much significance. Important among them are other cereal crops such as sorghum, maize, pearlmillet, and other pulses like red gram and green gram. An outstanding development is the very large (about 441 per cent) increase in the production of wheat followed by rice at about 186 per cent during the period 1950-51 to 1978-79.

Table 4—Average yield of principal crops

Year	Cereals				Pulses	
	Rice	Bajra	Maize	Wheat	Gram	Tur**
					(Kilograms Per	Hectare)
1950-51	670	290	550	660	480	790
1960-61	1,010	290	930	850	670	850
1970-71	1,120	620	1,280	1,310	660	710
1978-79*	1,340	490	1,080	1,570	740	725
	+(100)	+(69)	+(96)	+(138)	+(54)	—(08)

Figures in parentheses denote the per cent change in 1978-79 over 1950-51.
*Pearlmillet, **pigeon pea (red gram), Provisional.
Source : Directorate of Economics and Statistics, Ministry of Agriculture and Irrigation, Government of India.

It is evident from the Table 4, that the yield of most major foodgrains crops in the country has been increasing as a result of tehnological developments, such as irrigation, improved crop varieties, fertilizers, mechanization and increased use of inputs.

The increases in the yields during 1950-51 to 1978-79 were 138 per cent for wheat, 100 per cent for rice, 96 per cent for maize and 69 per cent for bajra. The position of pulse crops is less impressive. During the same period, gram yield rose by only 54 per cent while tur (pigeon pea) yields remained about the same. It is evident that the agricultural productivity during the last decade or so has been characterized by inter-crop variations in growth of output. Pulses—whose performance has been rather unsatisfactory—continue to be problem areas and deserve special attention.

The growth rate of individual foodgrain crops are not uniform even though country entered an important phase of agriculttural development in early 1950s. The uneven growth rate of individual food crops has led to the regional imbalances in rural prosperity. Even the growth rate for rice, the most important crop of the country, has not been uniform in different States. The study made by Alagh and Sharma (1980) shows that the agriculturally most advanced state of Punjab has shown much higher growth rates for food production than the national average. Orissa, an agriculturally backward state, has shown a growth rate much lower than the national average. The human population in these States, has shown growth with uneven rates with Orissa showing a 2.19 per cent rate while Punjab was at 1.69 per cent. It has led to the wider variations in the availability of foodgrain per capita.

Impact of new agricultural technology

The development of food production includes natural, physical, socio-economic, technological and institutional factors. In this study, some important factors are investment in agriculture, extension of irrigation facilities, adopton of HYVs seed and fertilizer and other infrastructure and technological possibilities.

Outlays on agriculture

Like any other industry, agriculture needs capital investment. The advent of planned development, which was initiated after independence, called for investing adequately to accelerate the agricultural growth and thus meet the needs of increasing population. Much of the planned outlay was designated for irrigation. Priority was given to the supporting Industries like fertilizer which would further help accelerate agricultural growth. Incentives were extended to the farmers through land reform and to make their own investments. This however, did not happen uniformly in every region of the country.

more than double in the sixth plan at Rs. 299,250 Rs. 147,510 million in the fifth plan. This constitutes 37.5 per cent of the total plan outlay, and million, accounting for 43.1 per cent of the total outlay.

Irrigation a vital factor

The extension of irrigation facilities plays a vital role in enhancing the agricultural production. Table 6 reveals that with only 25 per cent of net shown area under irrigation, progress has been slow. In this country where half of the cultivated area depends entirely on uncertain monsoon (rains) and where extensive agriculture is limited, an assured water supply is necessary for intensive agriculture.

Table 5—Outlays on agriculture in the public sector

Head	First Plan (1951—56)	Second Plan (1956—61)	Third Plan (1961—66)	Annual Plans (1966—69)	Fourth Plan (1969—74)	Fifth Plan (1974—78)	Sixth Plan (1978—83)
						(Millions of	Rupees)
Total Plan Outlay	19,600	46,000	85,770	66,250	157,590	393,220	693,800
(a) Agriculture and Community Development	2,910	5,300	10,890	11,070	23,200	46,440	95,250
(b) Major & Medium Irrigation	3,100	4,200	6,640	4,710	13,540	34,340	79,250
Total (a+b)	6,010	9,500	17,530	15,780	36,740	80,780	174,500
	(31)	(21)	(21)	(24)	(23)	(21)	(25)

Figures in parentheses denote pe centage to total outlay.
Source : Third Plan, India; Pocket Book of Economic Information, Indian Agriculture in Brief, Draft Sixth Plan.

Table 6—Progress in irrigation potential

Year	Govt. Canals	Other Sources	Total Irr. Area	Rice Irr. Area	Wheat Irr. Area
1951-52	7,158	13,695	20,853	9,840	3,402
1960-61	9,170	15,491	24,661	12,523	4,233
1970-71	11,972	19,131	31,103	14,339	9,924
1973-74	12,118	20,373	32,491	14,676	10,747
	+(69)	+(49)	+(56)	+(49)	+(216)

Figures in parentheses denote the per cent change in 1973-74 over 1951-52.
Source : Indian Agriculture in Brief, 16th ed.

The table 5 shows that the resources earmarked for agriculture and community development increased, almost doubled, from plan to plan, excepting the short period of three years 1966-69, when no plan existed. Expenditures on irrigation also rose substantially in every plan. Figures in the bottom section of the Table show that the country gave the highest prioriy to its agricultural development from one plan to the other. The share of agricultural development in the total national plan outlay was nearly one-third in the first plan period. This has, however, declined in the subsequent plan period. The table depicts only the two items directly and ultimately related to agriculure. If one includes other expenditures bearing on rural life, and indirectly on agriculture—such as rural roads, fertilizers and pesticides—the plan outlays are bigger still at

Progress in irrigation by government canals has been much faster than by the private canals, tanks and wells. Wells have made tremendous progress, but private canals, tanks and other sources have declined in importance.

Cropwise, there was an increase of 216 per cent in irrigation capacity for wheat. For rice the increase in irrigation capacity was only 49%. This implies that the expansion of area under irrigation for wheat has taken place at a faster rate than it has for rice. Irregular monsoon (rains) and lack of assured water supply are probably the two main factors responsible for low growth in rice production in the country.

Fertilizer and HYV programme

The use of chemical fertilizer is one of the quickest ways to increase crop yields. However, its effective use depends on several associated factors such as good seeds and timely availability of water. The total

consumption of the three types of fertilizers—nitrogenous, phosphatic and potassic materials (N, P and K)—increased slowly from 1.10 million tons in 1966-67 to 5.00 million tons in 1978-79.

It must also be remembered that not all fertilizer is applied to land under the high yielding varieties program. A part of it is used on traditional crops.

Despite its initial good impact, the progress of new technology was slow overall. The exception was with wheat, where progress was substantial. The total area under High Yielding Varieties Programs (HYVP) was 1.88 million hectares in 1966-67 which increased to 42 million hectares in 1978-79.

The progress in adoption of HYVP in wheat was very high, total area under this program rising from 0.54 million hectares in 1966-67 to 16.50 million in 1978-79. Rice plantings showed almost a similar increase going from 0.88 million hectares to 17.50 million hectares in 1978-79. But since the total area under wheat is only about one-half of that under rice, the area under high yielding varieties of wheat seed account for a much larger proportion (73 per cent). For the portions for other crops—notably inferior ones which are consumed largely by the poor—the picture is far from satisfactory. In spite of some increase, changes in the area covered by maize, sorghum (Jowar), pearl-millet (bajra) can hardly be described as progress.

The brief description of the beginning and the spread of the HYV Program, including the use of the key inputs, chemical fertilizers, demonstrates overall progress is unsatisfactory and very unevenly distributed. This conclusion applies forcefully to inferior crops. This revolution seems to have by-passed rice, too, the staple diet of an overwhelming number. One exception to these depressing trends is the case of wheat, for which progress has been faster. However, here, too, it needs to be noted that while the pace of coverage was fast in the early years for a decade or so, but it tended to slow down in the mid-1970s and has remained slow since.

Mechanization of agriculture

A striking fact about Indian agriculture is its small, almost negligible degree of mechanization. While there has been little mechanization, there has been some increase in the use of power-driven machines since 1951.

In 1961 the adoption began to increase and after 1966 the rate of mechanizing exceeded three to four times the 1961 rate. This is when the new technology began to appear on the agricultural scene. Nevertheless, mechanization has become controversial because of its implications for the rural labour, agriculture and the entire country.

Numbers and size of holdings

It is often said that the modern agricultural technology is natural to scale. Does it mean that the small farmer has no constraints in using all the inputs available to the large farmer? If the mechanization of agriculture is considered progress, can the small farmer adopt it with equal facility? Like any industry, the modern agriculture has become capital-intensive. The capacity of investing generally depends on the size of farm. Large farmers can mobilize their own resources and they can also procure better facilities from agricultural institutions. Consequently, the large farms have been benefited more from the modern technology than the smaller ones. The general notion that the rich have become richer and the poor have become poorer seems to be true.

If the pattern of distribution of holdings for two points of time is examined, it is observed that nearly 70 per cent of the holdings had less than 2 hectares of cultivated land in 1970-71. These groups of farmers held only 20.7 per cent of the cultivated area in the country. At the other extreme, only 15.2 per cent of the farming households with more than 4 hectares of land held nearly 61 per cent of the cultivated area. The average size of holdings during the period 1970-71 was 2.3 hectares, demonstrating that small farms predominate Indian agriculture. Unfortunately, these holdings are also divided into many fragments. Moreover, the number of average-size holdings is declining, significantly increasing the number of small farmers in 1976-77 over 1970-71. This trend discourages permanent land improvement. In other words, only 10 to 12 per cent of the farms have more than 4 hectares land and can afford capital-intensive technology.

Extension of credit

During the successive plans, efforts have been made to develop necessary infrastructure for making the essential agricultural inputs easily available through credit. No doubt, the farmer's own initiative is an important factor for taking advantage of the available facilities, but flexible and simple procedures laid down by the government and public institutions play a key role in spreading the benefits of credits and loans granted by public institutions. This applies especially to the weaker farming communities.

Possibilities for increasing production

India has vast resources of sunlight, land, water, plants and animals. In addition to 143 million hectares of land now under cultivation, another 1 mililon hectares are suitabe for cultivation. The intensity of cropping can be doubled, if there is adequate water and energy.

There are wide gaps between the potential and the present exploitation of our resources in crop, animal husbandry, forestry and fisheries. The absolute maximum food production potential of the Indian subcontinent has been estimated at as much as 3,200 million tons per year in terms of grain equivalent in a global study made by Buringh of the Wageninger University.

In another recent study, Dr. S. K. Sinha and Dr. M. S. Swaminathan have estimated that the absolute maximum production of grain equivalent in India may be 4,572 million tons per year The former study shows that India is endowed with a large untapped production potential which offers hope for a bright agricultural future in the country.

In recent years, the efforts of farm scientists have opened new vistas of agricultural development. Significant progress has been achieved with wheat

(Continued on page 17)

A strategy for oilseeds production

N.K. Gandhi

The country is faced with a deficit of 1.2 million tonnes of edible oils. A concerted action including development of area and production of oilseeds exploitation of tree-origin and non-traditional sources like rice-bran, strengthening of research, extension and support policy will go a long way in increasing the production of oilseeds in the country.

OILSEEDS, next to foodgrains, occupy an important position in Indian agriculture. These are cultivated on 19 million hectares of land and contribute nearly 6 per cent to the Gross National Product. With a total production of about 12 million tonnes of oilseeds, the country is faced with a deficit of 1.2 million tonnes of edible oils. To meet the ever increasing demand of edible oils, the country had been resorting to imports. Of late, these imports have created an alarming situation by draining our foreign exchange earnings to the tune of Rs. 7000 million.

Moreover, with all the imports, the total supply of edible oils stands at 4.77 million tonnes which makes its per capita availability 6.88 kg. per annum. As against this per capita consumption of 14 kg. has been recommended by Indian Council of Medical Research for meeting health requirements. To meet this standard, the country would be required to produce additional quantities of about 5.00 million tonnes of edible oils. The quantum of imports can't be increased further as it not only affects the balance of payments but would also adversely harm the forces of production within the country. At the same time the supplies of edible oils have to be adequate and at a reasonable price. Thus our immediate concern is to increase edible oil supplies by utilising the available technologies, resources and managing them properly.

Production trends

The production of oilseeds in India has almost doubled during the last 25 years. Most of the increase has been in mid-sixties and was due to increase in area under oilseeds. It's only recently that there has been some improvement in yields.

The low increase in production has been due to various constraints such as the cultivation of 90 per cent oilseeds under rainfed conditions where the yields are as low as 60 per cent of those grown in irrigated areas; the majority of cultivation by small farmers who have little resources to invest in improved seeds, fertilizers, and plant protection measures; seasonal variations and wide fluctuations in prices of oilseeds and lack of efforts on research front to develop high yielding production technology. Other factors include the development of improved varieties of wheat and rice which improved their profitability in relation to oilseeds and also the price support measures being stronger for foodgrains than for oilseeds, contributing to the replacement of oilseeds by new varieties of grains.

Priority for their cultivation

The Sixth Plan (1980-85), now being implemented, has given a high priority to oilseeds. A target of 130 lakh tonnes has been set for oilseeds (excluding coconuts and cottonseeds). This amounts to a growth rate of about five per cent per

annum. The details of actual production and plan targets are as under :

Yearwise edible oilseeds production and targets for Sixth Plan

Category of Oilseeds	1980-81	1981-82	Plan target 1984-85
	(Million tonnes)		
Groundnuts	5.00	7.24	7.30
Rape/Mustard	2.00	2.36	2.40
Sesame	0.46	0.52	0.55
Soybean	0.45	0.52	1.00
Sunflower	0.07	0.14	0.35
Safflower	0.34	0.42	0.35
Nigerseed	0.15	0.15	0.20
Grand Total	8.47	11.35	12.15

The approach to achieve these targets include : strengthening of research, extension and training; further development of area and production of annual and perennial oilseeds; exploitation of oilseeds of tree origin and non-traditional sources like rice bran, and provision of appropriate price-support policy.

Research, extension and training

Under the aegis of All India Coordinated Oilseed Research Project, ICAR established 62 research centres in different regions to deal with different oilseeds. Various other projects have also been taken up. National Dairy Development Board is implementing a programme to achieve an integration of production, processing and marketing in order to help the farmers to obtain remunerative prices. Similarly, four research centres with Canadian assistance have been established to conduct research in rape/mustard. Efforts are also being made for the diffusion of the technology to the farmers.

There is a need to put concerted efforts in research to develop certain varieties which are high yielding, disease resistent and with seeds containing higher oil content.

The production strategy for oilseeds has given stress on yield maximisation programmes by distributing improved seeds, popularising use of fertilizer, increased adoption of plant protection measures by putting more area under irrigation, demonstration of improved practices etc. Efforts are also being made to make the farmers adopt crop rotations with at least one leguminous crop. Such rotations are not only profitable but also improve soil fertility.

Efforts are also being made to increase the production of groundnut to 7.30 million tonnes by 1984-85. Mini kits are being distributed and other facilities like subsidy on irrigation, sprinkler sets, plant protection equipments etc. are also being extended to achieve the targets. Similarly, higher targets for soybean production and sunflower have also been fixed and efforts are being made to achieve them.

Among perennial oilseeds like coconut and oilpalm it has been planned to increase the production of coconut to 6750 million nuts by the end of the Sixth Plan. The long term approach has envisaged the rehabilitation of existing gardens especially those affected by rootwilt in Kerala. A Coconut Development Board was set up to integrate production with improved processing and marketing, thereby increasing its produce.

Area under oilpalm is being increased in Kerala, Andaman and Nicobar Islands. A public sector company has been formed to look after oil palm development in the country. Some of the forests are also being replaced by oil palm trees in these areas. An area of 3425 ha. in Kerala and 940 ha. in Andaman and Nicobar Islands has already been planted with red oil palm.

Tree-origin and non-traditional sources

There is a need to exploit the potential of tree seeds like salseed, mahua, neem, kusum, karanj etc. Salseed is a good source of high-value fat and is currently being exported. Its use in vanaspati is being considered.

Other sources of vegetable oils which have not been exploited fully include rice bran and cottonseed. Their availability for oil extraction can be enhanced by making certain policy decisions.

Remunerative price policy

The price at which the farmers sell their produce is always crucial to the production of the commodity. This has been well-demonstrated in case of cereals. Benegting from the experience, the Government had announced a price support policy for oilseeds in 1970. The support prices are fixed by the Government in consultation with the Agricultural Prices Commission. The support prices of certain oilseeds, as announced by the Government for the recent years, are given in the table below.

Support Prices for Oilseeds

(Rs. per quintal)

Oilseed	1982-83	1981-82	1980-81	1979-80	1978-79	1977-78
Groundnut	295	270	206	190	175	160
Mustard seed	..	..	245	245	245	225
Soybean						
Black	220	210	183	175	175	145
Yellow	..	230	198	..	..	..
Sunflower	250	250	183	175	175	165

The production of soybean has received a big boost through the fixation of support price. The production of soybean has increased from 74,000 tonnes in 1975-76 to 4,50,000 tonnes in 1979-80.

Improved processing methods

Increasing availability of edible oils through improved technological practices has been the objective of the current policies. Efforts are being made to improve the extraction efficiencies of traditional expellers which leave 7 to 10 per cent of oil in cake. In addition, the growth of solvent extraction units is being encouraged through the policies of the Government. In view of the capacity of solvent extraction units being utilised at only 60-70 per cent level, there is an urgent need to make additional quantities of raw materials like rice bran and oil cake available to these units.

Soybean processing plants, utilising the latest technology, are being set up in Madhya Pradesh in the cooperative sector. These plants will extract oil and produce soya protein and processed foods.

Of late, the potential of rice bran for edible oil production has attracted increasing attention from the Government. The processing of paddy by hullers has been the single-most important factor in not allowing the utilisation of rice bran potential.

In the light of high incidence of malnutrition among the masses, it becomes essential to utilise the cheap sources of proteins like de-oiled meal. As very few units are producing soya flour and other edible soya products, there is a need to strengthen the soybean and other oilcake processing industries.

Low per capita consumption

The per capita consumption of edible oils has gone up from 5.5 kg. in 1970 to 6.7 kg. in 1980. Even so, this compares unfavourably with the world per capita average of 13 kg. This low consumption reflects the inadequate supply and high prices of edible oils. At the same time the prices of deoiled cakes are generally lower in India as compared to the international market, which indicates a lower domestic market for these products. There is a need to develop a domestic market for these products.

The current polices of the Government have been stressing the maintenance of adequate supplies of essential commodities at reasonable prices. Edible oils are also being supplied to the people through the public distribution system.

Vanaspati manufacture

Some of the edible oils are also used for manufacturing vanaspati. The kind and proportion of oil to be used for vanaspati making are decided by the Government from time to time. A considerable portion of the oils used are imported. To encourage the use of indegenous oils, the Government has recently reduced the maximum percentage of imported oils in vanaspati from 95 per cent to 70 per cent. At present, the blending of oils is permitted only in vanaspati.

Vanaspati is produced primarily to satisfy consumer preference. It would be desirable if a swing in the demand from hydrogenated fats to liquid oils takes place as the process of hydrogenation of oils is energy consuming and results in some loss of oil. The hydrogenation capacity could be utilised for producing refined oils. For manufacturing refined oil, no industrial licence need be obtained from the Government.

Buffer stock created

Insufficient local production of oilseeds and edible oils has tempted some traders to hoard stocks and create artificial scarcities. To avoid this and distribute edible oils fairly the Government has prescribed certain stock limits for oils and oilseeds to be held by the dealers and producers.

In addition, the State Trading Corporation of India maintains a stock of about 2,00,000 tonnes of imported oils to facilitate the Government in maintaining the price level.

With any agricultural commodity exports are only allowed if a domestic surplus exists. With the increase in domestic demand for edible oils and stagnation in oilseed production, the export pattern has also changed from oilseed to oils, and now mainly to oilmeals.

Among oilseeds, limited quantities of HPS groundnuts, niger and sesamum seeds can be exported. Even in oilcakes and meals, present policy permits the export of deoiled meal so as to retain the residual oil for domestic consumption. Only limited quantities of oilcakes are allowed to be exported.

Similarly, the exports of HPS groundnuts were limited to 50,000 tonnes till recently but has now been liberalised. By liberalising the export of HPS groundnut, the Government has taken a good stand as it would give an additional incentive for higher domestic production in view of the high prices obtained for such exports.

Imports

The efforts of the Government have been directed to ensure sufficient production of oilseeds and edible oils within the country. However, imports become unavoidable during periods of scarcity. The objective of import policy has been to strike a balance between the interest of the producers and those of the consumers.

Upto 1978 liberal imports of oils and oilseeds were allowed to both private and public sector importers. But in December 1979, the policy was modified to channel all such imports through the STC for the benefit of consumers and producers.

Looking at the existing supply of edible oils in the country, it appears that India may continue to

import oils at least at the present level. The decrease in imports will depend upon the success of existing production plans.

It is, therefore, crucial for the Government to formulate certain strategies which should help achieve the objective of self sufficiency in edible oils in the near future. A concerted effort on all fronts such as increasing output of oilseeds, higher support price for the farmer; and improving oil extraction efficiencies and the marketing system, can help achieve the targets. There is undoubtedly a vast potential for growth in this sector.

The following suggestions are being made which it is felt would not only help increase the production and availability of edible oils but would also improve the socio-economic status of small and marginal farmers.

(i) In order to obtain quick results, it is necessary to first identify areas having high yield potential, then concentrate extension efforts in the selected areas.

(ii) It is necessary to fix a remunerative support price for oilseeds. The formula for fixing support price; as evolved by the National Productivity Council, which examines both the economics of growing oilseeds and the market price demand and supply of competing crops may be considered.

(iii) Efforts may also be made to increase area under soybean crop which can meet both our oil and dal requirements if processed appropriately.

(iv) Processing facilities for those oilseeds, whose production is rising need to be expanded so as to maintain necessary marketing support for the oilseeds.

(v) In view of a sizeable proportion of our population suffering from malnutrition it is necessary to utilise the protein resources effectively. Thus there is a need to set up processing facilities which could convert de-oiled meal into protein foods.

(vi) There is a need to encourage modernisation of rice mills by taking certain policy decisions. This will not only help the utilisation of rice bran for edible oil production but would also increase rice yield.

(vii) An All-India study to find out the number of ghanis and oil expellers, and their extraction efficiencies and technologies, should be conducted. With this information recommendations to improve extraction efficiencies could be made.

(viii) A long term export policy needs to be formulated which encourages the export of HPS groundnuts even in the lean years. This would help the country to import more stocks of edible oils.

(ix) It is necessary to forecast the need for importing oilseeds|edible oil as early as possible so that imports can be planned well in advance thus avoiding the payment of high prices in off season purchases.

A Profile of Agricultural Development

(*Continued from page* 13)

and to some extent with rice. The yield for wheat and rice has increased greatly. However, full potential has not been achieved by the nation's cultivators. The results of national demonstrations on rice and wheat crops suggest there is high production potential under various agro-climatic conditions in the country. These demonstrations reveal that most of the states can hardly realize 20 to 40 per cent of the yield potentials which have been demonstrated on farmers' field.

India has a potential of raising two crops of paddy with an average yield of 5 tons and one crop of wheat with a yield of 10 tons per hectare. Indian farmers have hardly achieved more than 30 per cent of the potential for the principal crops of the country, that is, paddy and wheat. The study of the performance of the high yielding varieties undertaken at the Indian Agricultural Statistics Research Institute has shown that the best 5 per cent of wheat farmers in agriculturally advanced Punjab have achieved yields equal to those attained in national demonstrations. Even in Orissa, the agriculturally backward state, the best 5 per cent paddy farmers produce fairly close to the national demonstration yield. This shows a great technical possibility of improving the productivity.

Conclusion

India has made considerable progress in bringing up an infrastructure for development of agriculture, but we still have a rather narrow base. This is true also of the level of input use and resource utilization. For instance, compared with a potential for 143 million hectares, only 39 million hectares of cultivated area are now under irrigation. Further development of irrigated land is not restricted to availability of water. The present intensity of cultivation is less than 1.25.

Technically, it should not be difficult to achieve an intensity of at least 2. But fertilizer consumption at nearly 35 kg per hectare pales into insignificance when compared with countries like Japan where it is about 300 kg per hectare. Nearly 60 per cent of the area in cereal production remains to be seeded to high yielding varieties of crops. All these differentials point to the vast untapped potential which can be exploited for improving agricultural production.

The vast interstate crop yield differences reflect in large part the spatial difference in growth infrastructure and level of input use. However, the conditions in one state may not be replicable in another. To assess the physical potential for meeting our production capacity, it is appropriate to compare the existing crop yield with those obtained in national demonstrations on farmers' fields within the respective states. These yield levels are well within reach, provided necessary infrastructure is created, inputs are made available and technology is transferred to the producers.

Whither planning in social sector?

Tej Prakash

For the planners and the bureaucracy, 'people' are the vague target group. They have become a shelter for all that is done or is not done. For academicians, seminars, conferences and visibility exercises of all other types, the word 'people' has become mantra and convenient tool, the author avers.

DEVELOPMENTAL PLANNING in the Social Sector is an interdependent and multi-sectoral process. As in all other sectors of plannings, fiscal allocations and physical targets determine the planning frame. But unlike other sectors, the quantifiable measure ends there. It is in the 'felt' perceptions, in the multiplier levels of changes and impact at individual and social levels, that seem to bear no direct relationship to the formal plan exercise that real assessment of change is possible.

It becomes an area where the roles of benefactor and beneficiary become blurred and in many cases, the beneficiaries become the benefactor, both the prime mover as well as the absorber of impact. For want of a better identification tag both for the planners and the bureaucracy, this vague target group becomes the people. For purpose of bureaucarcy—both Governmental and political 'people' become a shelter for all that is done or is not done; for academicians, seminars, conferences and visibility exercises of all other types, the word 'people' becomes a *mantra* and a convenient tool. The sixth plan also formalises its homage to people. The plan document thus begins with the acknowledgements :

> "Democratic planning means the harnessing of people's power and their fullest participation" (forward to the sixth plan).

The subsequent structure of the plan does not, however, discuss either the concept of people's participation or its operational details. This omission is surprising since the plan document has, as a system precisely defined objectives and targets. If this is not to be read as a syntactical exercise, then some basic questions need to be answered.

What is people's participation ?

Who are 'People' ? What from does this participation take ? Is it a reference to individuals living in villages and communities ? Or does it refer to organized formal political, quasi-political or other interest groups ?

In the planning process in most cases, delivery systems are clearly defined. These are specifically designed schemes and projects which are to be put through existing channels of developmental administration.

One broad assumption could be that the planner's perception of people's participation is limited to private enterprise in industrial and commercial sectors. This may mean that within the framework of government policies and objectives, private enterprise shall have a role to play. The role of the private sector, so to speak, has in the plan context been legitimised.

The system of delivery of services in the entire range of direct social services sectors of health, education, components of Minimum Needs Programme, rural development and employment programme is either controlled by the existing administrative system or a sub-system created and controlled by it.

This is not surprising. Planners have viewed the social services sectors also with the same archetypal perception with which they have seen industrial and commercial sectors which have well-defined and highly structured and controlled system. This culture and trend of thinking has determined the strategy in social services sectors also resulting in well-defined inputs of management techniques.

In the plan document or indeed elsewhere in the Governmental system, there has not been a serious experiment or even a debate at any level, about what "People's participation" means—what role it can and should have, how it can be organised and its growth sustained. Somehow the basic assumption in the plan whether in talking of employment targets, immunisation or mother and child care, has been that fiscal allocation pre-supposes the trickledown effect of the benefit. The input-output ratio approach has been extended to the social services sector also.

Paternalistic approach

The approach, however, is again paternalistic.

"For effective implementation of social welfare programme, local communities would be fully involved and stimulated for sharing greater responsibility in organisation and supervision. Their participation will also be essential for identifying the beneficiaries. A system of participative decision making by all beneficiaries at the delivery point may be considered" Sixth Plan P. (26-28).

In considering the delivery systems in the developmental process administrative process is often taken to be synonymous with management system. It has become a cliche to say that while the plans are well-conceived, implementation is poor. Existing delivery systems of developmental plans are a part of the administrative and bureaucratic process. It is not realised that the formal system is not equipped to have the grassroot feel of sensitivities at first hand. A basic argument of this article is that the formal bureaucratic system cannot be changed.

Translated into operational details, planning exercises take the shape of projects which then develop their own systems are sometimes, involved in specific and limited areas. These then create their own sub-systems and bureaucracies and more or less subsist on and justify the main system—defining and enlarging it further in the process.

Inevitably, this brings up the question of concept and role of the bureaucrats vis-a-vis the citizens in sectors of slow growth and changes such as in the social services sectors. Inputs of time, resources and costs put into this sector glaringly contrast with achievements. It may be argued that ultimately, the Government is the most organized and visible and acceptable form of social structure that spends people's money and acts on their behalf. Why then should governmental system be replaced by any other form of people's action ?

It need not be, if two basic assumptions are made. First, that 'government' is not synonymous with 'bureaucracy', and the second that democratic and responsible decentralisation can take place both within the system as also outside it.

Forms of collective action

In the social systems today, two forms of people's collective action are available. Panchayats, Zila Parishads and other village bodies have become and are fast becoming, both politicised and bureaucratised. The other is the system of voluntary groups—both with a formal legal sanction and without it. There are, as per Central Social Welfare Board, about 10,000 such registered organisations. There are many more which function informally but no less effectively. These organisations have developed their own systems and cultures. Bureaucracy has also rubbed a part of itself on to these organisations through grant-in-aid patronages and other subtle means.

To say that a formal voluntary sector is the answer would however, be a facile generalisation.

Most voluntary agencies today are urban. A few are promoted as exercise invisibility for unsuccessful politicians, idle-rich wives and similar other classes. These are basically pressure groups. They tend to take upon themselves the role of 'elites'—spokesman for all the rest. The biggest damage that these groups pose is that they become, due to their high visibility, the only perception for the policy makers or the bureaucrats, blocking all others and creating a chasm between other agencies and between reality and policy framing.

Too often these big organisations develop their own bureaucracies—as rigid and tyrannical as any other. It then becomes a power game and in the process, it does not let any other voluntary effort grow unless it is patronised by them. It assumes an overpowering elitism and it becomes a broker, a middleman, between the people and the system. Thus it destroys more than it creates for it corrupts the system at its very source.

Bureaucracy has to react to the big 'voluntary' groups due to its own compulsions. There is the democratic compulsion, mainly as a part of parliamentary process (its questions and debates), to promote the growth of voluntary effort. There is administrative pressure to spend the fiscal allocations. It becomes a mutually supportive partnership which promotes the grants-in-aid culture.

At other levels, the best of small agencies are alienated and good causes are killed as happens everyday in women's organisation taking up various causes through bemused apathy of an unresponsive power structure. Smaller agencies have, in any case, neither the resources nor the time to be seen or heard in the corridors of the Secretariat.

Would the solution then seem to be in a kind of midway house compromise, that does not remove the soft option but which recognises the strength of different systems ?

Social and human perceptions

A basic strength of people's organisation is that it can respect and formalise those social and human perceptions that other formal systems can either not systemise or can at best only reduce to a training manual. These community systems can operate on both the levels; they can use, understand and, hopefully, influence governmental sub-systems. Successful voluntary

efforts underscore these points; that development has a human dimension, that attitudinal elitism only brings reaction and not progress that developmental frame has to adopt itself to the socio-cultural systems and not vice-versa, that communication means understanding by the community and not by the media elites and finally that people—village-people—are neither ignorant nor fools.

Yet in our planning process, we have institutionalised perceptions based on cliches. In the community health workers scheme—now the village guide schemes—the health worker is a person selected by the PHC through the Panchayats. The scheme has not had the desired effect because most of the men selected (now Health Guides are Woman) have no involvement and the community is indifferent. She has become an extension of the bureaucracy and is, therefore, equally suspect. However when in similar rural health projects a health volunteer has been selected through a democratic process by the villagers, he or she has succeeded. The basic point is that she had the initial approval of men in the village. In a male-dominated set up, it is the biggest social approval. Yet in trying to successfully change a project into a programme, these crucial perceptions were lost.

Optimum results

Both the bureaucratic and the voluntary systems must then learn about their areas of optimum results. The governmental system has, of necessity to make resource and fiscal allocation. Since it is accountable, it has to fix broad physical targets. The community then should decide upon appropriate techniques and technologies, attitudes of systems. They can reach out to areas where little exists and fill in the gaps of planning and effort.

In a broader social sense, community groups can recognise casts and social fixities and exploit these in growth strategies. These can act as pressure groups not only within the community, but even at the level of District, State or Central power structures. A multiplicity of such pressure groups would help in clearing planning perception and bringing some attention to low priority social sectors. At the community level, the demonstration effort of 'something done' would be a far greater catalyst of change than any big project planning.

By and large, the formal system should be willing to decentralise and delegate more, not as compulsion of a political system but with a deliberate willingness to let people decide for themselves, which means that development should be seen beyond the framework of a scheme. The bureaucratic system can, initially through a dialogue with the community, lay down board objectives and fiscal allocations. It can monitor, evaluate and control the allocations and the results, in partnership with the agencies. But it must not manage, nor should its schemes be as highly structured as they are. Details of work within this broad frame should be left to the voluntary agencies. It should be left free to change and improvise within this delegation. The political and bureaucratic compulsion of quickly translating a project into a programme would, to some extent, be met by sacrificing finer points.

Community effort

Growth of community effort should be encouraged as a part of the planning process-not through a middle bureaucracy of CSWB or its State Boards or through patronage of grants-in-aid, but as a legitimate and integral part of the system. Schemes and projects should be so framed that the community can run it themselves. Involved local people should be encouraged to start such community action. More established agencies should take the role of guiding and developing these efforts. Growth of organised social effort should be built into the district plan itself—not as monolithic cooperatives or such structures, but as small village based units. In numerous women's organisations across the country—'Mahila Mandals' and 'Mahila Sangams'—such groups exist. There is no reason why similar groups cannot come up in other areas also. These would be local groups involved in reacting to local problems and accountable to the local people. District administration should help them by entrusting specific projects to these groups and build these support in the regular fiscalcal and district plan. Only difference would be that instead of district administration or a big voluntary agency very many such smaller groups would be involved.

It presupposes two things. Professional voluntary work should offer the chance of a decent living to a young professional. More often initial intense involvement of a young person brings intense disillusionment when he discovers petty village politics and power games and the neglect and hostility of the people he wants to serve. It takes time to discover that people are the same everywhere and that there is no virtue in poverty. Very few, naturally, survive. If a young person is given some support, at this stage, many young people would opt for it as a vocation. Second would be to avoid the temptation to see any project as a programme and try to replicate it on a scale beyond all 'feel'. Only the growth of many such local initiatives could make it a part of the developmental processes resisting any attempt to structure it, but changing and adapting even as people, their social, economic and other norms do changes. □

Harijan ex-serviceman sets his shop

Shri Om Prakash, a Harijan youth of Mubarakpur village in Himachal Pradesh, retired from the Army at a young age. After retirement, he had to depend solely upon his pension which he found to be too meagre to support his family. When he heard of the 20-Point Programme he contacted the Amb (HP) BDO. The BDO advised Shri Om Prakash to open a grocery shop in his basti which, till then, had no such shop. A local bank extended him a loan of Rs. 7,000 and the BDO granted him a subsidy of Rs. 2,500 to open the shop.

And now, according to a recent report filed by the Hamirpur (HP) FPO, Shri Om Prakash is the proud owner of a well-run grocery shop. He is not only paying the bank loan satisfactorily but is also increasing his business.

Urban employment in unorganised sector

N.S. Balasubramanian

The line of demarcation between the unemployment and under-employment in the urban unorganised sector is very thin. This situation can be redressed if emphasis is laid on self-employment ventures, the author feels.

HUMAN RESOURCES planning has become an integral part of general economic planning since it helps increase the productivity of human capital on the one side and to reduce the intensity of the problem of unemployment, one of the baffling problems that confront the planners in many developing countries of the world.

The object of this article is to make a study of the size and structure of urban employment in the unorganised sector during the Sixth Plan period. Such a study requires adequate and reliable data on different economic and population variables during the plan period.

Organised and unorganised sectors

The organised sector has been defined as one that includes all establishments in the public sector and non-agricultural establishments, employing 10 or more workers in the private sector. On this basis the unorganised sector may be defined as one that includes the entire agricultural sector, non-agricultural establishments employing less than 10 labourers and the entire self-employment.

There has been no uniform definition for the term 'urban area' in different census calculations in India. But the urban economy is fastly expanding in India, even though the rate of urbanisation is very low when compared to the rates in some other nations. Besides, the urban population has been growing at a substantially faster rate than the total population and the gap has widened recently. This is mainly due to the natural increase of labour force in the urban areas and the continuing movement of people from rural areas to urban areas in search of job opportunities.

Employment in unorganised sector

The Sixth Plan document states that the absorption capacity of the organised sector is very low in India. Much of the employment in the urban area come under the unorganised sector only.

Professors John Friedmand and Flora Sullivan in their article, *'The Absorption of Labour in the Urban Economy : The Case of Developing Countries'* have divided the urban economy into three distinct sectors.

First, there is an individual enterprise which includes partially employed and self employed workers who make the 'Street Economy'. Secondly, there is the family enterprise sector. This includes employment of workers in small trade, services, establishments and small industrial establishments. Thirdly, there is the service sector, consisting of employments in big industrial houses, government bodies and quasi-government bodies.

The first two sectors, namely, the street economy sector and the family enterprise sector may be taken together for the purpose of the present analysis as urban unorganised sector. Labourers who reside in urban areas and who often move to neighbouring villages for agricultural works should also be included in this category.

The size of urban employment in the unorganised sector during the Sixth Plan period in India has been estimated along the following lines.

The total population of India according to 1981 census was 684 million. The percentage of decadal change in population between 1961—71 and 1971—81 remained more or less constant—24.80 in 1961—71 and 24.75 in 1971—81. If the rate of increase of population between 1971—81 level continues, the absolute increase in population during 1981 and 1991

has been estimated at 170 million. The estimated population in 1985 would be around 754 million assuming an annual growth rate of 2.5 per cent between 1981 and 1991. Thus, it is estimated that the total population during the Sixth Plan period would increase by 70 million.

Urban population

The definition of the term 'urban' varies in different censuses. However, the estimated trend of the percentages of urban population to total population is 20.22 in 1971 and 23.73 in 1981. On this basis the percentage of urban population in 1991 may be assumed to be 25.26 in 1991. If an average figure is assumed to be suitable for the year 1985, it works out to be 24.6 per cent.

Using this percentage, the urban population in the year 1985 is estimated at 185.5 million (24.6 per cent of 754 million). Urban population in 1981 was 162.3 million (23.73 per cent of 684 million). Therefore, increase in urban population during the Sixth Plan period is estimated at 23.2 million.

The urban worker-participation rate in 1981 was 39.4 per cent. The actual size of urban work force in 1981 had been 63.9 million. If the same percentage is assumed for the year 1985 also, the size of urban work force in 1985 would be around 73.1 million. This implies an increase of urban labour force by 9.2 million during the Sixth Plan period. According to the Sixth Plan document also the increase in labour force during the plan period in urban areas would be 9.6 million and the generation of additional employment would also be 9.6 million which would leave the same level of backlog of unemployment at the end of the plan period.

Rural-urban labour ratio

According to the Sixth Plan document, addition to rural labour force would be 24.7 million and to urban labour force would be 9.6 million during the plan period. This implies a rural-urban labour ratio of 72:28.

On the basis of the study undertaken by the Reserve Bank of India during 1961-73, growth of employment in the organised sector has been estimated at 22.86 million in 1980 and 25.9 million in 1985. This implies an estimated increase in employment in the organised sector in the plan period by 3.1 million.

The Sixth Plan states that the absorptive capacity of the organised sector is very low and it is capable of absorbing only 12 per cent of additional labour force. This implies that the organised sector will create employment to the tune of 4.1 million (12 per cent of 34.3 million jobs, expected to be created during the plan period).

An average of these two figures may be taken for granted. Thus, employment during the planning period will be 3.6 million in the organised sector and 30.7 million in the unorganised sector.

Employment in the urban unorganised sector

Total employment in the unorganised sector is estimated at 30.7 million. An estimation of the proportion of employment in the urban unorganised and rural unorganised sector can be made if a reliable ratio is available. In the absence of such a ratio, the ratio of rural to urban labourers may be employed. This gives an estimated employment in the rural unorganised sector as 22.1 million and in the urban unorganised sector as 8.6 million.

Thus, the estimated employment in the urban unorganised sector is 8.6 million. As stated in the early part of this article, this unorganised sector consists of the small size of agricultural sector in the urban sector, employment in non-agricultural establishments, employing less than 10 labourers and the entire self-employment. As stated by Jitendra Dholakia, the line of demarcation between open unemployment and insufficient self-employment or underemployment in this sector is very thin one and the shared poverty is the unfortunate lot of most of the persons employed in this sector. It is the survival sector in the urban economy. This necessitates in the employment strategy of the Sixth Plan, emphasis on self-employment ventures in non-farm occupations in urban areas. □

Chamansaheb ka chamatkar

TROT, TROT TROT and HALT. This is the sound that people of Navalgund town wait for. Persons wanting to travel don't want to wait for bus which appears only thrice a day. They rely more on Chaman's tanga-horse driver carriage— which has been a boon both for the owner and the passengers.

Shri Chaman Ansari was an agricultural labourer earning between eight to ten rupees a day and finding it hard to feed to five others in his family. He approached the Block Development Officer of Navalgund with a plea to help him 'somehow'. He was advised to come out with a definite plan of action. Shri Ansari submitted an application for a tonga, under IRDP, and through nationalised bank. He was given a loan of Rs. 3,000 and a subsidy of Rs. 1000. Villagers were thrilled at the new facility made available to them. Shri Ansari is now able to earn anywhere between thirty to fifty rupees a day. He has almost cleared the loan.

Life for Shri Ansari has a new meaning now. Perhaps he has lesson or two for those who just sit and brood over their misfortune.

K. R. Prahallada,
Field Publicity Officer, Dharwad.

Why more women entering work force ?

Madeeha Sherwani

An increasing number of women are entering the job market. The author points out that there has been tremendous increase in the number of women professionals, while the number of women engaged in agricultural pursuits is decreasing.

THE MAJOR ASSET of a nation on which the hopes of its rapid development rest are its people. The provision of employment to all able-bodied men and women, therefore, has to form a dominant theme in the economic development programmes of a country. The Indian constitution provides for equal rights and privileges for women and men. On the employment scene also a number of social legislations have been enacted to raise the status of women, and eliminate discrimination in remuneration against them. The growing rate of work participation of Indian women since the initiation of the era of economic planning in the country is clearly evident from table I.

Table I

Statement showing the number of female workers on the live Register during the year 1950-51 to 1981-82

Years	Number of Female workers	Per centage increase over 1950-51 (in millions)
1950-51	0.02	..
1960-61	0.03	50
1970-71	0.06	20
1979-80	1.90	9440
1980-81	2.34	11600
1981-82	2.73	13550

The above data reveal that the number of registered female workers in 1950 51 was 0.02 millions. This increased to 0.03 million in 1960-61 showing a 50 per cent increase during this period. The number of women workers in 1970-71 further recorded an increase upto 0.06 millions. In terms of percentage it was a 200 per cent rise. During the subsequent years the rise has been unusually high. This increase is due to growing work participation of women workers in the recent years as well as the result of changed definition of a worker according to the 1971 Census. The number of female workers increased from 0.06 million to 1.90 millions in 1979 and the increase was 9440 per cent. In 1980-81 the number of women on the live employment register increased from 1.9 million in 1979-80 to 2.34 million the rise being 11600 per cent. In 1981-82 also the rate of growth was prominent. The number of female workers increased from 2.34 million in 1980-81 to 2.73 millions in 1981-82. Thus the figures in Table I are important indicators of the fact that year after year Indian women are seeking employment in large numbers.

Motivation for work

The biggest motivation for work for a majority of Indian women is indeed the sheer economic necessity. With the growing rate of inflation and soaring prices women are compelled to leave the security of their homes and help the family by adding something to their meagre resources. Especially, the women of the lower and lower-middle classes take up work to meet their financial needs and thus ease the strain of feeding their families.

Again the prevalence of the dowry system and its increasing demands are forcing many girls to take up work and help their parents in meeting the pressures of payment of ever-increasing amounts by way of dowry. In fact, the value of a working girl,

from marriage point of view, is much higher than that of a non-working girl. Even the demand for dowry may be less in their cases.

However, in the case of women of upper and upper-middle classes, especially among the educated women, the reasons for taking up jobs are more of psychological nature than due to economic and social compulsions. The greatest majority of job seekers in these social groups take up work because it gives them self-expression, personal satisfaction and escape from the boredom of idling at home. Earning through their own efforts gives them a sense of independence besides providing an opportunity for leading a little better style of life.

of the proportion of women to total persons employed there was a decline from 37.6 to 35.9 per cent. This is a significant indicator of shift of female workers from agricultural to non-agricultural occupations.

In the rural areas female workers mostly act as helpers to men in agricultural activity. They do such works as harvesting weeding planting, threshing, manuring etc. These are classified as agricultural labourers. The women cultivators are mostly found in the hilly or tribal districts. They are engaged in the cultivation of their own small and uneconomic holdings in the absence of their husbands who migrate in search of jobs.

Table II

Industry-wise employment of women in the organised sector as on 31st March.

Sl. No.	Industry Division	1971 Number of women employed	1971 Proportion of women to total persons employed	1979 Number of of women employed	1979 Proportion of women to total persons employyed
(0)	(1)	(2)	(3)	(4)	(5)
		(000)	(per cent)	(000)	(per cent)
1.	Agriculture & Allied Activities	405	37.6	581.6	35.9
2.	Mining and Quarrying	54	8.9	85.8	9.67
3.	Manufacturing	422	9.0	573.3	9.78
4.	Electricity, Gas and Water Supply	16	3.7	13.4	2.0
5.	Construction	55	5.9	59.0	5.29
6.	Trade & Commerce	29	5.0	20.7	5.46
7.	Transport, Storage and Communications	44	1 9	67.9	2.54
8	Financial, Insurance, Real Estate and Business	855	13.4	66.0	7.78
9.	Community, Social and Personal services (included in Item 8)			1194.2	15.56
	Total	1891	11.1	2750.8	12.4

In the case of professional women like teachers, doctors lawyers, engineers etc. there are motives such as aptitude for profession, social status, pastime and even a desire to counter male domination. Professionalism is no longer an exclusive preserve of men.

Categories of female workers

The category-wise employment of women in the organised sector upto 31st March, 1979 is given in the above table :

The above table gives a category-wise study of employment of women during the years between 1971 and 1979. The given figures reveal that the first division of Agriculture and Allied Activities provides employment to the largest number of women workers. In the year 1971 the number of women employed under this division was 4,05,000. This increased to 581,600 in 1979. However, in terms

Under the category of Allied Activities plantations also provide job outlets to a number of female labourers in the organised sector. Women find it convenient to work in plantations because they provide conditions of settled labour force to all members of the family.

The next division of industries as given in Table II comprises occupations like mining and quarrying. The number of women workers in this sphere was 54,000 and their percentage in 1971 was 8.9. In 1979 the numbers increased to 85,800 and the proportion was 9.6 per cent of the total. Mostly women from backward and tribal communities work in mines. Previously women were also allowed to work in the underground coal pits. But recently this has been banned by law. Women only work on the surface of coal mines.

The third category of industry employing female workers, is manufacturing In this the number of women in 1971 was 422.000 or 9 per cent of the total employed. In the year 1979 this figure increased to 573,300 and the percentage increased to 9.78.

Under this division maximum number of females are employed in such industrial activities as spinners, weavers dyers, knitters etc. in cotton, woollen, jute and silk mills and hosieries. Women are also employed in large numbers in the electric, electronic and garment industries. Educated women engineers and diploma holders in allied disciplines are now appointed as supervisors and managers.

The employment of women under the next three types of industries-electricity Gas and Water Supply, Construction and Trade and Commerce reveal a downward trend. In 1971 the number of women working in the field of Electricity, Gas and Water Supply was 16,000 or 3.7 per cent of the total. This was reduced to 13,400 workers in 1979, and their percentage also came down to 2.0.

Similarly, construction industry which was previously a source of employment to a larger number of female workers employed proportionately lesser number of them. That is in 1971 their proportion to total was 5.9 but in 1979 it came down to 5.29. The number of females employed, however, increased from 44,000 to 67,900 during the same period. Again, women working in Trade and Commerce indicate similar position. Their number declined from 29,000 in 1971 to 20,700 in 1979. In terms of percentage, however, there was slight rise from 5 per cent to 5.46 per cent during the period under review.

The last three categories of industries seem to provide the largest avenues of employment to women job seekers in India. Under the division of Transport, Storage and Commerce there was a substantial increase, both in the number of workers as well as in their proportion to the total.

Encouraging increase

However, the most spectacular rise in respect of female employment has been in the sphere of the last two categories, viz., Insurance, Real Estate, Business and the Services sectors. As in table II the figure for the female employment for the year 1971 in the above two categories were not shown separately. The combined figures of the number of women employed and their proportion were 865,000 and 3.4 respectively. These figures were bifurcated in 1979. But for the sake of comparative study if we combine the figures of the last two categories we find that there was a phenomenal rise in 1979 both in respect of the number of women employed and their proportion to the total. The number of women worker in 1979 increased from 865,000 1,260,200 and their relative percentage also recorded an increase from 13.4 to 23.34. Thus the largest employer of women in the organised sector, next only to the Agriculture and Allied Activities, are the traditional occupations in the areas of financial institutions, business and services.

The majority of women under these divisions take up the white-collar jobs and work as clerks, typists, etc. Women workers are preferred in these jobs because of their docile nature. Usually they do not take active part in strikes and other trade union activities.

In the field of service, occupations like teaching, nursing and domestic services engage the largest numbers. In fact, it would not be wrong to say that Indian women are still channelled into employments which reproduce the traditional concept of feminine roles of "caring" and "serving". By and large, it is held that the maternal touch of a woman makes her better qualified for such jobs than a man. Teaching is one of the very few acceptable professions to join which parents and guardians readily send their daughters.

A further examination of the operational structure of the Service division shows that the unskilled and uneducated women of lower classes mostly work as sweepers, cleaners, waiters, cooks, maid servants, ayahs etc. They are mainly concentrated in jobs involving drudgery while educated women are increasingly showing interest in non-traditional occupations. Their rate of participation in the training programmes of engineering, medical colleges, polytechnics and industrial training schools is on the increase. They are getting training and taking jobs in such fields as library science, journalism, interior designing, painting, sculpture etc.

Another welcome feature among the modern educated women of India is that they are showing keen interest in the field entrepreneurship. Not only are they starting their own teaching institutions, medical clinics, but in the sphere of law, engineering, retailing, marketing and transporting etc. they are marching ahead. The small scale enterprises are started by them on the sole proprietorship or cooperative basis. Workshop for women entrepreneurs are started at various places in India. It is interesting to note in this connection that Lijjat Papads, a co-operative organisation of women, is the Major exporter of Indian papads abroad and its products are fast becoming popular overseas.

The above analysis of Table II reveals certain changing trends on the female labour scene in India. Firstly, in the organised sector women's share has increased from 11.1 per cent in 1971 to 12.4 per cent in 1979. However, the unorganised sector still provides source of work to the overwhelming majority of our women. Then there are certain occupations which absorb our female workers in larger numbers than others. Moreover, the jobs which require certain levels of education and technical training as pre-requisite are attracting more females today. Not only is there increase in the number of physicians and surgeons, lawyers, accountants, etc. but recently the specialised work of administrators, executives and entrepreneurs is also becoming popular with our women. There is a **fall (from 37.6 per cent to 35.9 per cent)** in the number of women engaged in the agricultural pursuits, electricity and water supply etc. The rest of the categories have shown an upward trend, especially the categories related to services, business and financial institutions.

Problems faced by working women

Indian female workers still operate under certain limitations and hardships. One of the most common problems faced by a woman is the dual role she has

(continued on page 33)

"Gender Justice"

V. C. Harris

Our women are beginning to break out of their chains and it is difficult to stop them now. It is time we shook off the rigidities of the sex-gender system and launched a new venture, men and women hand in hand, to tackle multitudinous problems of life and create a brave new world wherein women would have a proper role in the political process with equality of status and rights and no problems in work and employment.

"GENDER JUSTICE"—that was the theme of the Second National Conference on Women's Studies, held in Trivandrum from 9 to 12 April, 1984. Women's role in the political process, problems relating to their work and employment, legal problems relating to the status and rights of women—all these were discussed in great depth.

Apart from the conclusions arrived at during the workshop sessions which discussed the various problems relating to women, the Conference adopted a number of resolutions which are of great importance in understanding the main thrust of the movement. These resolutions, if implemented, may bring about a radical change in the entire socio-political milieu of the country, and it will have a great impact not only on the lives and status of women but also of men. Hence it would be profitable, and instructive, to undertake an analysis of those resolutions.

Enforcement of equal wages law

First, the Conference resolved to urge the Government to appoint effective committees to supervise enforcement of the Equal Remuneration Act. It is well known that in many areas of employment, especially for unskilled labour, women workers are grossly underpaid. There are a number of common devices that categorise work into different grades solely for the purpose of legitimising unequal wages. The Conference felt that proper legislation should be enforced and data collected in order to avoid such devices. This would go a long way in alleviating the hardships suffered by women workers in many areas of employment.

Second, the Conference resolved to press for the repeal of the Travancore Succession Act, 1916, operating in the area of the erstwhile Travancore state in Kerala, and the Cochin Succession Act, 1921, operating in the former Cochin state. They discriminate against the rights of Syrian Christian women in family property matters. The above Acts, which also operate against Article 15(1) of the Fundamental Rights guaranteed by the Constitution of India, nullify the claims of the Syrian Christian women on their parents' properties after marriage. Though entirely justified on liberal and humanitarian grounds, the resolution is bound to create a controversy and invite a strong reaction from the orthodox Syrian Christian community.

A common civil code

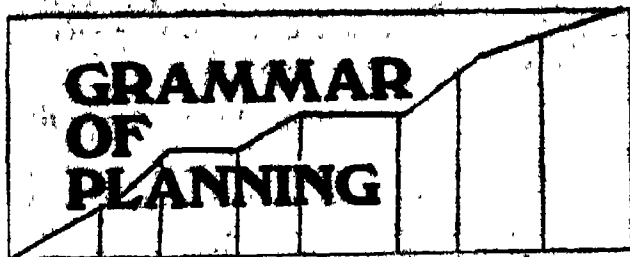
Allied to this is the resolution to press for a common civil code which may evoke the wrath of the fundamentalist leaders of many a community. However, the resolution throws light on the liberal thinking among the members of the movement and on their righteous indignation over discriminatory laws. The Conference also wanted a radical change in the legislative policy relating to the distribution of (and, calling for equal shares by husband and wife and top priority for unmarried women. It was also felt that all property acquired after marriage should be jointly owned by husband and wife. Needless to say, such radical changes, if brought about, will contribute to an equitable distribution of wealth and property as befitting the claims of gender justice. Yet, it is obvious that these changes are bound to create a stir among the

(continued on page 29)

A Serialisation

2

P. R. Dubhashi

The rationale of planning

In the first part of the chapter 'Why Planning?' which was carried in the last issue, the author explained how planning was an "orderly arrangement of the future." Herein the author discusses how planning is necessary to resolve the conflict between maximisation of rate of growth and minimisation of inequalities in capitalistic, socialistic and developing economies.

IF PLANNING is the instrument of correcting or ountervailing the aberrations, imbalances and malınctioning of the capitalistic economy, it is the ıethod of management of a socialist economy. With ıe socialisation of the means of production, the priate entrepreneurs or directors of the firms are relaced by state appointed managers. The latter, 'hether of farms or firms, are not free decisionıakers but function as agents of the state. They are overned by the directions of the state authority. he central authorities of the state could either issue etailed instructions regarding the management of ıdividual units in the economy or provide general uidelines in the light of which the individual manaers could take decisions pertaining to their own nits. These instructions or guidelines constitute the lan in a socialist economy. Stalin was, therefore, ght when he said that "our plans are instructions".

Socialistic planning

It was the contention of Mises and Hayek that cialism was impracticable and unworkable because central authority could ever provide instructions and decisions to innumerable units producing innumerable types of goods and services, requiring innumerable decisions involved in the production process. The central authority will never possess the necessary information needed for solving simultaneously the equations regarding inputs of factors of production and output of goods and services. Mises and Hayek were writing before the advent of the computer age. But even with the help of the computer, one is not certain whether the Central Planning Authority could keep on solving these equations and communicating the decisions to innumerable producers, consumers and workers.

Planning in a socialist economy may not, however, necessarily entail that all decisions need to be centralised and communicated by the central authority. Osker Lange, in his book Economic Theory of Socialism, pointed out how socialistic planning is possible on a decentralised basis. The Central Planning Authority would provide the guideline to the entrepreneur of individual units to equate marginal cost with marginal return. This will ensure optimum production decision by individual managements. The market economy would thus be retained. This would not be inconsistent with the existence of the socialistic economy because means of production would be socially owned and surplus would not constitute profits of the capitalist entrepreneur but the income of the state or the socialist economy.

Planning may be centralised or decentralised; it nevertheless is an inevitable instrument of management of the socialist economy.

Instrument of rapid economic development

After the end of World War II, many countries of Asia and Africa, hitherto colonies of the western imperial countries, became independent nations. All these countries looked upon political freedom as an instrument of economic development. As a result of the western domination over Asian countries many of them, though nominally independent, were incap-

able of pursuing any independent economic policy. They were not masters of their own destiny. Some of these countries, however, were able to free themselves of western domination and launch upon their own independent path of economic development.

In chalking out the path of economic development, they were convinced that they could not leave their economic process to the vicissitudes of the market economy but would have to launch upon a deliberate plan of economic development. For the underdeveloped countries, planning thus became an instrument of rapid economic development.

Many of them were unwilling to blindly adopt or adapt in toto the extant patterns of planning. They did not want either the centralised planning of the communist countries nor the partial or peripheral planning of the western countries. What they wanted was the third path in a pragmatic blend of socialism and capitalism, a mixed economy consisting of public, cooperative and private sectors functioning within the framework of planning.

Whatever be the pattern of the economy, what the newly emerging countries desired over everything else was rapid economic development. Having missed the opportunity to be present at the banquet of industrial development whose fruits were enjoyed only by the western countries, they wanted to telescope centuries of economic development into only a few decades. Rostow, in his analysis of the historical process of economic change, identified five distinct stages of economic development, viz., traditional economy, transitional economy, take-off stage, self-sustained growth, and high mass consumption economy. Most of the emerging countries in Asia, specially India, found themselves in the traditional stage and looked upon planning as a method of hastening the take-off stage and moving towards self-sustained growth.

There are many ways in which the rationale of planning in an underdeveloped economy could be explained. Thus, it was pointed out by the U.N. Commission appointed for recommending "measures for full employment in underdeveloped economies", that the market economy could bring about only marginal changes. What an underdeveloped country requires for full employment are structural changes and planning alone can bring about such structural changes.

A distinction is made in this context between growth and development. Growth merely implies expansion in the gross national product. It is only a quantitative concept. Development, on the other hand, is a qualitative as well as quantitative concept. It involves changes in attitudes, institutions, organisations and manpower which are required for the mobilisation of the potential resources of an economy which could never be developed through the normal market mechanism. Old taboos and superstitions have to go. Institutions like caste, religion and joint family which constrain productive factors may have to be altered. Financial institutions and institutions for the promotion of industry and agriculture have to be built up. Agricultural Extension Services and cooperative and community development movements have to be started. Necessary training, education and research facilities have to be provided. Infrastructure has to be created in the form of roads, water supply, power, hospitals, schools, housing, etc. Basic industries, like steel, coal and power will have necessarily to be initiated by the state or else they would never come up.

Removal of inequalities

Another compelling reason for adoption of planning by the underdeveloped countries is their desire to see that development takes place along with reduction of inequalities. Such is "the revolution of rising expectations" in these countries that the typical process of development of the free economy, where market incentives provide the fuel for development but accentuate inequalities, is found unacceptable. Planning is necessary to resolve the conflict between maximisation of rate of growth and minimisation of inequalities.

Another way of showing the relevance of planning in an underdeveloped country is to point out the reasons why the market mechanism cannot function in a normal manner in an underdeveloped country. The prices in the market economy do not adequately reflect the scarcities and proportions of the various factors of production. The prices of factors of production, which reflect the availabilities of various factors, are called the 'shadow prices', which are different from the prices prevailing in the market. The planning authority, therefore, has to attempt allocation of resources taking into account the shadow prices.

Nor does the market economy provide for the complementations and external economies to which attention was drawn by Rosenstein Rodan. In such a situation, success depends on simultaneous planning of complex interlocking projects. It is only the state or the planning authority that can provide investment needed for the complementalities which taken together make investment economic which would otherwise be an un-economic proposition.

Capital formation has been considered to be the keynote to the economic development and capital formation requires savings. W. Arthur Lewis has stated that the progress from an underdeveloped to a developed economy requires that the rate of savings should be pushed up from 5 to 12.5 per cent. For pushing up the rate of savings and mobilisation of resources, it becomes necessary for the state to participate in a big way in the entire economic system, to socialise banking and insurance, to set up financial institutions and take hold of the commanding height of the economy. This, therefore, forms yet another justification for state participation in economic system and State sponsored planning.

Ragner Nurske showed how idle manpower resources can be used for capital formation in an underdeveloped country. The works programme needed for such an effort can only be taken through a planned programme of economic development.

Thus, planning in an underdeveloped country is neither an instrument for mending capitalism or ending capitalism nor ushering in socialism. It is rather an instrument for the mobilisation of all national resources, whether in the public or the private sector, for the tasks of economic development and social change. While planning is ostensibly for economic development, experience has shown that the rate of economic development does not necessarily correspond with the degree of intensivity or comprehensiveness of economic planning. Thus, India has resorted to comprehensive planning continuously since 1952 but its economic performance has not been particularly impressive—above 3 per cent increase in GNP. On the other hand, Japan and South Korea, with less comprehensive planning, have shown a much faster growth rate.

Concepts

Thus, there are three different concepts of planning in relation to three different economic systems. In the erstwhile western capitalistic economic systems, planning is a means of correcting some of the shortcomings of the marketing economy, like unemployment, monopoly, inequality or social costs of private enterprise. In a socialist economy, planning stands for management of socially owned means of production. Finally, in the developing countries, planning is an instrument of accelerating the pace of economic development.

Is there anything common between these three distinct concepts of planning as have been set out above? In respect of methodology, organisation, machinery, procedure, mobilisation of resources etc., is there anything common? Are the techniques equally relevant to the various concepts of planning so that different countries can draw on the lessons of each other? Is there anything like an optimum system of planning irrespective of difference in the economic systems? The answers to these questions would be apparent in the succeeding chapters. □

Gender Justice

(continued from page 26)

conservatives, especially male chauvinists, who may not be able to brook ideas of gender justice that easily.

Strengthening anti-dowry law

The Conference also resolved to urge the Government to take immediate steps to incorporate necessary amendments to the Dowry Prohibition Act. It may be recalled that the Government has not yet brought forward for discussion the report, submitted in August 1982, of the Joint Select Committee of the Parliament empowered to enquire into the problem of dowry and all its concomitant evils. Even though a number of women's organizations have been exerting tremendous pressure on the Government to bring the report for discussion, the Government has resisted stubbornly all pressure and refused to do anything with the problem. Under the circumstances, in view of the daily reports appearing in the media about dowry deaths and other inhuman atrocities perpetrated on women, it is imperative that the Government should shake off its lethargy and set out to do something really effective in stamping out this abominable evil.

The Conference also showed its international outlook by condemning the proliferation of nuclear weapons and the imperialist tendencies of the Super Powers. In a resolution adopted by the Conference, the members of the movement expressed their concern for nuclear disarmament and congratulated all women who were playing a key role in anti-nuclear and anti-imperialist movements.

Proper education for women

Keeping in view the comparative backwardness of women in education the Conference wanted a reduction of female illiteracy to 50 per cent by the end of the Seventh Five Year Plan and to 100 per cent by the end of the century. It was felt that in order to achieve this goal the resources of all educational institutions should be mobilished and tapped to the full. Another poignant fact which drew the attention of the Conference was the alarming rate of female mortality for which the census figures do not provide adequate data. Hence, the Conference urged the Government to establish an appropriate mechanism which would undertake regular and systematc surveys to collect data on mortality.

In the political sphere, the Conference felt that women who represented roughly 50 per cent of the population, were not sufficiently represented in law-making bodies, including State Assemblies and Parliament. Hence it was resolved to take up a study of the next General Elections with special reference to women and their participation and problems. Such a study, to be sure, will throw light on the various issues that deter women from entering the mainstream of political life.

Call for gender justice

On the whole, the resolutions adopted by the Second National Conference on Women's Studies seek to incorporate into the nerves of our body politic the values of gender justice and secularism. Some of the resolutions, call for a sweeping change in the socio-political millieu of the country, and it is probable that certain vested interests and conservative elements of our society may voice their disapproval. But, in a country which is torn by political chaos and obscurantism, these resolutions come as a fresh wind of change. It is high time we shook off the rigidities of the sex-gender system and launched a new venture, men and women hand in hand, to tackle the multitudinous problems of life and create a brave new world. Our women are beginning to break out of their chains, and it is difficult—and foolish—to stop them now; they are here for the liberation of not only themselves but of the whole race □

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TRIVANDRUM:-695001	Near Govt. Press, Press Road,
PATNA:-800004	Bihar State Co-operative Bank Building, Ashoka Rajpath
LUCKNOW:-226001	10-B Station Road (Opposite Kohinoor Hotel).
HYDERABAD:-500004	State Archaeological Museum Building Public Garden.

20-point programme

Performance of during 1983-84

Yojana Correspondent

THE ALL INDIA performance of the 20-Point Programme recorded a 'very good' achievements of the annual targets during 1983-84 in respect of 12 points relating to setting up of Primary Health Centres (303.5 per cent), bio-gas plants (157.2 per cent), provision of house-sites (134.7 per cent), uplift of Scheduled Tribes families (121.2 per cent), Integrated Rural Development Programme (114.0 per cent), provision of drinking water (113.3 per cent), improvement of slum population (110.6 per cent), tree plantation (109.0 per cent), uplift of Scheduled Castes families (107.8 per cent), Integrated Child Development Services (Scheme) (100.0 per cent), village electrification (99.9 per cent) and energisation of pumpsets (91.7 per cent).

Criteria

According to the 20-Point Programme monitoring report, for the month of March, 1984, the Planning Commission has fixed criteria of performance in terms of 'very good' for 90 per cent and above achievements of the annual targets, 'good' for 80 per cent to 90 per cent achievements and 'poor' for below 80 per cent achievements.

In the case of the 12 points as already mentioned, the annual targets were fully achieved. The performance achievement of National Rural Employment Programme was 'good', i.e. between 80 per cent to 90 per cent of the annual target. The progress under the remaining points relating to sterilisations (75.2 per cent), Sub-Centres (74.1 per cent), Surplus Land (66.5 per cent), Construction Assistance (65.4 per cent), release and rehabilitation of bonded labour (59.5 per cent) and provision of E.W.S. houses (36.6 per cent) was 'poor', i.e. below 80 per cent of the annual targets.

States performance

The report reveals 'poor' performance by the States during 1983-84 under NREP, release and rehabilitation of bonded labour, supply of drinking water, provision of EWS houses, sterilisations and Sub-Centres as compared to the performance and achievements in 1982-83

The performance of Andhra Pradesh, Gujarat, Kerala, Meghalaya, Orissa, Rajasthan, Tamil Nadu, and West Bengal was below the level of 1982-83 during the year 1983-84 under NREP.

The performance of Karnataka, Madhya Pradesh, Orissa and Uttar Pradesh in respect of release and rehabilitation of bonded labour was poor and below the level of 1982-83.

As for the provision of drinking water, the performance was below the level of 1982-83 in Andhra Pradesh, Bihar, Jammu & Kashmir, Maharashtra, Karnataka, Madhya Pradesh, Meghalaya, Rajasthan, Sikkim, Uttar Pradesh and West Bengal.

So was the case in regard to the provision of EWS houses in Andhra Pradesh, Haryana, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Orissa, Rajatshan, Tamil Nadu and Uttar Pradesh.

The performance level of sterilisation in Andhra Pradesh, Bihar, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Gujarat, Orissa, Punjab, Rajasthan, Sikkim, Uttar Pradesh and West Bengal was also below the level of 1982-83.

Andhra Pradesh, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal performed poorly and below the level of 1982-83 in setting up of Sub-Centres.

This analysis is based on the monthly progress reports for and up to March, 1984, received from 20 States and all Union Territories. The reports from Nagaland and Tripura are only upto February, 1984. It also excludes 25,000 bio-gas plants to be set up during 1983-84 by Khadi and Village Industries Commission from its perview. □

Palash : the flame of the forest

G.K. Ghosh

Plantation of palash tree is useful for packaging appliances, medicinal properties, energy source, soap making etc. With such utility factor, mass plantation of palash tree will help accelerate the process of all round development of the people.

IT IS BELIEVED in Ayurved that everything that we see is useful to us, if utilised properly. Even with scientific developed arena it is believed every material that is seen can be utilised or transformed into useful purposes. Even the cowdung or night soil is being used now as one of the source of energy by producing methane gas.

In our country there are many trees and plants which are being neglected although they can be utilised for useful purposes. One of such tree is "Palash" which is commonly found in India, Pakistan, Bangladesh, Burma and Sri Lanka. It is also known as Dhak or Chalcha in Hindi, Moduga in Telegu, Murikku or Shamata in Malayalam, Kincka or Palash in Bengali, Kijuko in Oriya and Butea gum tree in English. The tree grows almost upto the height of 400 metres from sea level particularly in grassy lands, water logged situation, black cotton soils and saline soil.

Palash tree is medium sized deciduous tree with a untidy growth. Average height of the tree is 3 to metres and its girth 2 to 2.5 metres. Leaves are trifoliate, large and rough.

Its many uses

Palash wood is not a good timber but can be utilised for making rough packaging cases. But the wood charcoal is useful for manufacturing gun powder. The tree yields sufficient amount of gum which can be used as a stimulant or a stringent as per Ayurvedic purposes and also used in leather tanning and dyeing.

The bark even today is used for leather tanning and inner bark for fibre. Root fibre in the villages are used for making rural sandals and ropes. But if we can be moulded along with synthetic resin we may able to produce many useful products. If the fibre can extract this fibre properly and weave we may get moulded sheets, trays etc.

Flowering season for Palash is February-March. During these months in Palash growing areas there is good scope for bee keeping and we may get good amount of Palash honey. The flower resembles the parrot beak in shape, bright flaming orange scarlet in colour with black calyx and are borne in closely packed bunches.

Palash flower is commonly called Tessu in trade and is a source of yellow colour used for dyes. In villages flower dust is used as Abir, a yellow powder used during 'Holi'. Buds are dark brown. The canopy of flowers on the crown of the tree brings the name 'Flame of the forest'. The flower does not have any perfumery odour.

Medicinal properties

Fruits of Palash generally arrive in the months of April to June. It is pale green turning yellowish brown coloured with silver white coloured hair. The fruits are gererally on seeded 15 to 20 cms. long and 2.5 to 5 cms. broad and are light in weight. Kernel or seed have wormicidal or medicinal properties and are flat oval shaped and reddish brown in colour. Oil content of Kernel is 17 to 19 per cent. While extracting by expeller it yields 8 per cent oil whereas 16 to 17 per cent by solvent extraction. The fresh seed contain proteolytic and lypolytic enzymes.

The Palash oil can be compared with ground nut oil or Sesame oil for use in soap. Its Oil is yet to be accepted as an edible oil due to certain toxic nature. But however it is a very suitable for manufacture of soap. We have already stopped importing tallow after a controversy and we are running short of edible oil as a result the prices are soaring high. If we can use Palash oil for manufacture of soap, substantial amount of edible oil now being use for soap manufacture can be released to market to be used for edible purpose. Since quality of this oil is fairly good for soap manufacture there may not be any necessity to process the oil as a result we may minimise process loss.

An energy source

After extracting oil from seed what remains is cake. Unlike any other oil cake however this oil cake can not be used as cattle feed due to the presence of toxic substances. But this can be used effectively for manufacture of adhesives. It contains Nitrogen 6.1 per cent and Phosphorous 1 per cent and hence can be used as a good manure. Due to the presence of cyonid acid it can be used as a good insecticide. Further if we bring down the pH of the slurry of oil cake in water to 6 to 7 and then ferment we may be able to produce biogas to solve a part of energy crisis Only thing being this was never thought over or tried. Infact after producing biogas the Nitrogen and phosphorous content of the cake will be further enriched. There is also scope for further research to find out toxic substance in the cake be utilised for useful purposes or not.

Till recently this wealth was described as a useless tree used for decorative purposes. Infact, the qualities mentioned above are only the part of the story. With more research it is sure we may be able to use it for many other useful purposes.

This wealth can be used more consolidated way with coordinated effort. State Khadi & Village Industries Boards of respective States and the directly aided institutions of Khadi & Village Industries Commission can be entrusted the work to organise seed collection which will help rural poor to earn their livelihood. For that matters States Oilseed Development Corporations can come up with solvent extraction plants to extract the oil, industrial units to extract tannis, produce charcoal, adhesives ayurvedic medicines and go ahead with small fibre industry. Cakes after taking out biogas can be used in our farm houses as fertilizer cum insecticide. For extraction of oil even private sector solvent extraction plants can be utilised and large scale soap manufacturers may be asked to utilise Palash oil for manufacture of soap. With all those efforts the flame of the forest can be converted into the torch of development. □

Why more women entering work force ?

(*Continued from page* 25)

to play on the domestic front and the shop floor. Particularly, the married working women with small children find this dual responsibility a source of great mental and physical strain. For them the working hours are long, eight hours at the place of employment and at least four hours at home. Usually husbands and sometimes even the in-laws do not extend any help in the house-hold chores.

Again, after all this hardwork the tragedy is that a working woman can not claim independent economic assets. Most of the salary earners have to surrender their pay packets to their husbands in case of married women, and to their parents in case of unmarried girls. They are allowed to hold back only a small amount for spending on transport and tea.

Beside a working woman has to face discrimination on the work front also. While they receive equal pay with their male colleagues for equal work, however, at the time of promotions to the higher posts few women in all walks of life reach top positions. This is so because of two reasons. One is the age-old prejudice against females. Secondly, only a few women get the required technical and industrial training needed to man the higher posts.

Lastly, in the case of mining, plantation, and industrial fields employers now a days seem to be reluctant to employ women because of the various protective laws which involve extra expenses for them The statutory obligations exist in respect of working hours, load carrying capacity, maternity benefits as well as for the establishment of day care centres for the children of working women.

In spite of this, additional avenues for the employment of women should be explored and promoted. Appropriate steps should be taken to develop the professional and technical skills among women in India. Opportunities for self-employment and entrepreneurship should be developed. Government should encourage liberal flow of technology for the use of women entrepreneurs. Facilities of getting credit and essential raw materials should be made available. Institutional finances should be provided to make their projects economically viable.

Moreover, in the rural sector also the apportunities of self-employment should be provided to women. This would provide work for them in their spare hours. Establishment of highly labour intensive and technically simple industries like beedi making and preparation of certain types of small processed food delicacies like papad, badiyan, sev etc. should be given special attention. Thus economic independence will accelerate and improve the status of Indian women. Old prejudices and complexes are dying though very slowely. In fact, our female workers are entering the employment scene on an increasing scale. □

BOOKS

Planning Models

Development Planning Models : Edited by S. Bhagwan Dahiya. Two Volumes. Published by Inter-India Publications New Delhi. Pages 392 + 270. Price Rs. 300 per set.

WITH NINE CHAPTERS in each volume, the editor attempts to weave together the viewpoints of various experts and authorities on several aspects of micro and macro economics. In his own paper editor Dhahiya dilates on the various economic models, starting from the Mahalanobis model, and comes to the conclusion that "the planning models which have been developed so far are essentially aimed to solve the conventional neoclassical problem of resource allocation rather than to make a full analysis of the abundance of one important factor of production-labour (skilled, semi-skilled and unskilled)." The clear implication, according to Dahiya, is that full employment can be reached only over a relatively long period of time. In his view, attempts should be made to formulate such models as would allow for alternative techniques of production and identify the labour intensive activities and sectors. Such models should also indentify different skill classes of labour instead of indentifying all labour as homogeneous.

Amongst the important economists whose papers are included in the book are Yogender K. Alagh, Sukhamoy Chakravarty, Hollis B. Chenery, Ashok Rudra and Louis Lefeber. Chakravarty and Lefeber have contributed on 'An Optimising Planning Model' (originally published in Economic Weekly, Feb. 1965), wherein they discuss temporal and inter-temporal relationships between certain strategic elements in a plan. Y.K. Alagh and K. C. Majumdar have contributed on 'Input-Output Model Used For 1978-83 Draft Plan' (originally presented at Input-Output Conference at Bombay University in 1978). There are chapters on planning models as adopted in some other countries as well. Hollis B. Chenery and Michael Burno have written on development alternatives in Israel.

A reading of the various contributions becomes highly rewarding as our sights are lifted and knowledge broadened. A subject like this has to be technical and as such, for an average reader some mathematical background will be a must for coming to grips with the planning models discussed in the book. The editor of this book deserves our congratulations.

Navin Chandra Joshi

Children's Literature in Indian Languages—edit by Dr. (Miss) K. A. Jamuna—Publications Divisio New Delhi—Pages 293—Rs. 18.

THOUGH CHILDREN constitute a sizeable pı of our population, they have been, like other weak section, a neglected lot. In recent years a growi awareness of their problems and interest in their w fare is being noticed. The production of wholesor literature for them is an important part of their w fare. Government agencies like the Publications Di sion, All India Radio and Doordarshan, and Gove ment aided institutions like the Children's Book Tr and National Book Trust have been doing yeoman's s vice in this field. Of late private publishing hous have also entered the child market in a big way. It now appropriate to take a critical look, as this volu seeks to do, at the progress achieved so far and chart a course for future growth.

This is a collection of articles on the origin a development of children's literature in fourte Indian languages. It provides an opportunity to concerned for comparing notes with and learn fro one another. While reading the articles one is stru by certain common features in the children's literatu among the different languages, which confirm the ba unity of Indian culture. In all languages folk literatu has been the most ancient and ever-green storehou for the children. The next important source has be the classics like the Jataka stories, Panchatant Hitopadesa, Kathasaritsagar, the epics and the Pu nas. After the advent of British rule, Christian m sionaries had done pioneering work in this fie even though their motive was different. In the lat part of the 19th and the earlier part of the 20th ce turies we find the leading lights of the renaissan movement — like Iswar Chandra Vidyasagar, Mich Madusudan Dutt, Rabindranath Tagore, Nandalal Bo (of Bengal); Gijubhai Badheka (of Gujarat), Vallath Vellor, Kumarau Asani (Kerala), V.K. Oak, Sa Gujarat (Marathi); Madhusudan Roa, Fakhirmoh Senapathi (Oriya); Vedanayakam Pillai; Bhara Desikavinayakam Pillai; Raja (Tamil); Dr. G. Sithap thi; Veerasalivgan; Gurzada Apparao (Telugu), Pre Chand Moulana Azad, Hafeez (Urdu) Raja Shi Prasad 'Sitare' and Bhartendu Harishchandra (Hin —had contributed to children's literature. The pr sent day adults' writers should emulate these exampl The role of institutions like the old Dakshinamu of Gujarat and the present Sahitya Pravarthaka C operative Society of Kerala is also worth noting.

Suggestions for the future include reduction in t price of publications, wider distribution system, le sermonising and more pleasing contents and to op libraries in the elementary schools. Ultimately t criterion of success for children's publications is to self-supporting and profitable as in the West. ☐

P. Srinivas

Rural landless employment guarantee

An amount of Rs. 600 crores has been provided in the Sixth Plan for the recently launched Rural Landless Employment Guarantee Programme (RLEGP).

Assistance under this new scheme will be provided to the State/Union Territory Governments on 100 per cent basis. During 1983-84, 60 million mandays of employment were proposed to be generated under the programme and for the year 1984-85, the target for employment generation will be 300 million mandays.

The Programme has two basic objectives. They are to improve and expand employment opportunities for rural landless with a view to providing employment for at least one member of every landless labour household upto 100 days in a year and the creation of durable assets for strengthening the rural infrastructure which will lead to rapid growth of rural economy.

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29 lakh tribal families above poverty line

TWENTY NINE LAKH tribal families have been assisted to rise above the poverty line by the end of the fourth year of the Sixth Plan. This has been achieved as a result of the thrust of tribals while paying commensurate attention to infrastructure and other sectors of development.

The tribal sub-plan strategy, now in the tenth year of implementation, is a comprehensive one which take into account, the productivity, educational, anti-exploitative and infrastructural requirements of the developmental problems of the scheduled tribes. With the inclusion of the tribal development strategy as the seventh point of the 20-point programme, tribal sub-plan strategy has received further momentum.

The States have been advised to devise more family oriented schemes in certain sectors like forestry and village and small industries which offer vast scope for helping the poor tribals.

In order to provide greater marketing facilities for tribal produce, a decision has been taken to constitute TRIFED which will be the Tribal Marketing Federation at the national level to help the Tribal Development Corporations, Minor Forest Produce Corporations and its other affiliates. The TRIFED will start working in the near future.

An Inter-Ministerial Committee has been constituted for evolving suitable policy guidelines for rehabilitation of displaced tribals. Association of traditional tribal institutions and functionaries in tribal development programmes with a view to ensuring active participation of the beneficiaries in the tribal development is also being promoted.

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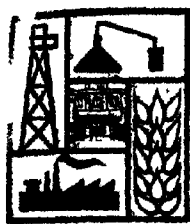
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Shaping India through planning

yojana

JUNE 16—30, 1984 □ RUPEES 1.50

Private foreign investment in India

NEXT ISSUE

Planning for remov of poverty

Special programme to increase paddy production

A special programme to increase production of paddy in six Eastern States, viz., Assam, Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and West Bengal, will be launched next year. About 550 blocks in these States will be covered under this programme.

It has also been decided to launch a pilot programme for increasing paddy production in about 50 blocks of these States from the 1984 Kharif season itself.

These States have a very low yield of paddy production, and excepting West Bengal, have a growth rate below the national average. A total of 55 million tonnes of rice is produced in the country, out of which only 26 million tonnes come from these States. If the States attain the yield level of national average, they can give 9 million tonnes of rice more every year.

An outline of the salient parameters of the production programme in selected blocks with an analysis of the constraints and methods to overcome them will be drawn up within a time-frame. Blocks with higher probability of success are expected to be selected in the initial phase. Targets of input deliveries and achievements will be monitored constantly. The special programme will show swift and significant results in 5 to 6 years' time.

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For new subscriptions, renewals, enquiries please contact: The Business Manager, Publications Division, Patiala House, New Delhi-110001.

Our Contributors

A. M. Khusro, Member, Planning Commission, New Delhi ; **K. K. Sharma**, former Principal, Meerut College, Meerut ; **Vasant Sathe**, Union Minister for Chemicals and Fertilizers, New Delhi ; **D. Bright Singh**, former Member, Tamil Nadu Planning Commission, Madras ; **S. K. Ray**, a noted author on economic subjects, New Delhi ; **C. M. Chaudhary**, Teacher Research Fellow, University of Rajasthan, Jaipur ; **Dr. R. P. Singh**, Senior Training Specialist, Indian Agricultural Research Institute, New Delhi ; **G. Savaraiah**, UGC Research Fellow, Sri Venkateswara University, Kavali, (A. P.) ; and **P. R. Dubhashi**, Director, Indian Institute of Public Administration, New Delhi.

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Shaping India throug plannir

A.M. Khus

Taking an overview of the economic development in the country in the past three decades or so, the author points out that the five year plans and budgetary policies have invariably been more inflationary than they need have been. "We seem to be aiming always at a high growth rate and pressurising our resources to eke out that growth. But more often than not, we keep failing in this endeavour and end up with a smaller growth and larger inflation", he adds.

INDIAN PEOPLE PLANNERS and policy makers are living in somewhat strange times today. On the one hand, there is a general consciousness of much good that has happened in the last three decades—maintenance of freedom, stability of democracy, steadiness of economic growth, development of institutions, agricultural revolution in some parts of the country, fairly rapid industrialization, massive generation of skilled manpower, improved health and longevity and certain peak achievements in the realms of atomic energy, space-craft, rocketry, polar exploits and ocean development. On the other hand, there is nearly an all round consciousness of non-achievement, stagnation and even deterioration in some areas of life—very slow emergence and in some cases deterioration of democratic institutions, agitational politics, labour unrest, decline in law and order here and there, emergence of black incomes, decline in public morality, vast prevalence of illiteracy and unemployment and a failure to substantially improve the distribution of income and to eliminate poverty sooner.

Thus, we have plenty of material in this country by now to choose from and we can choose depending upon whether we are optimistic or pessimistic, whether we want to highlight successes or unsucce But one thing is certain, most trends are healthy upward looking rather than sinking or deteriorat It seems quite possible to arrest the areas of dete ration with suitable policy measures and pu cooperation. Many analysts feel that despite negat ness and shortages of resources, India, after t decades of national effort, is now poised for s kind of break-through.

This artical is based on Dr. Zakir Hussain Memorial Lecture delivered by the author recently in New Delhi. The views expressed herein are his own and not those of the Planning Commission.

A unique phenome

India's continuous economic growth at about per cent per year spread over more than 30 years unique phenomenon as the world goes. For one th this annual 3½ per cent growth has gone on to bec 5 per cent during the Fifth Plan period and looks po to register another 5 per cent annual rate during current Sixth Plan. For another, this lifting up of trend line of Indian growth has come in the face decline of the mighty : growth rates among develc nations in North America, Western Europe, the Sc Union, Eastern Europe and even Japan have decl from an impressive 5 per cent plus to ½ per cent per cent in recent times. It is India's steady growt 3½ per cent to 5 per cent per year spread over n than a quarter century that has placed the countr a class by itself among developing countries. The q tion is how to maintain and improve this performa

Focussing attention on areas of non-achievement relative failure, we have now to ask the following q tions : Where have we gone wrong in our planning policies during the last 30 years? What lessons ca learnt from the failures? How should we alter future in the light of a sober analysis of the past? I should we bring about the break-throughs that are expected by many amongst us? Some lines of appr may perhaps be in order as suggestions for a ser national dialogue so that the options are evaluated the right approaches for the future evolved.

Inflationary budgetary polic

One possible area of relative failure has been inability to control inflation. Our five year plans our budgetary policies have invariably been more flationary than they need have been. We seem to

aiming always at a high growth rate and pressurizing our resources to eke out that growth. But more often than not, we keep failing in this endeavour and end up with a smaller growth and larger inflation.

This is not to deny that a plan without ambition is no plan at all but it is not necessary to pressurize resources unduly or to mobilise them from the wrong sources or through wrong instruments, thus provocating resistances and courting failures. The inflationary pressures emerging from such pressurization of resources have prompted us to put a lid on prices, wages and rents through various controls.

These in turn, have led to black incomes and the hiding of these incomes from tax authorities. Hence the ratio of unaccounted output and income to total output and income has been increasing and there is a strong presumption that the total output itself, and indeed, the growth rate, has been (a) lower than what it could be and (b) under-estimated. To that extent, it is possible that poverty itself has been over-estimated. This is not to deny the very vast prevalence of poverty with accompanying filth and degradation for which India is almost unique.

The phenomenon of black incomes has not only reduced tax resources but has increased the demand for non-institutional assets like lands and real estate, gold and jewellery and, indeed, assets abroad. It is a property of many-non-institutional assets purchased by black incomes that their supplies cannot grow very much but their prices quite rise sharply. Black incomes, therefore, are generally enemies of economic growth as well as of redistribution.

Conflict between growth and distribution

When a developing country develops rapidly, say, at an annual rate of 7 per cent in the aggregate and per cent per capita, the bottom segments of its population ... a 3½ per cent gross aggregate growth and a 1 per cent per capita growth has been unable to pull up many of the bottom segments of society and involve them in the growth process. Hence it has become necessary to run special programmes or poverty alleviation simultaneously with an effort to increase the national product.

In the event, it appears that rural-agricultural growth in India has been accompanied by some improvement, or at any rate no deterioration in poverty proportion while urban growth has gone hand in hand with some worsening of poverty proportion.

Looking into the future, it seems possible that if the recently established 5 per cent aggregate growth is sustained or improved (as it could be) and, owing to the recent successes of family planning methods especially leprascopy, if population growth is contained at about 2 per cent, the per capita output growth will rise from 1 to about 3 per cent per year. In that case, the lower income brackets would begin to get caught in the process of growth perhaps for the first time, and income growth and redistribution will begin to go hand in hand rather than contradict each other. We can aid and abet this process by enlarging and toning up our massive poverty alleviation programmes both in rural and urban areas and cause a really serious dent into income distribution and poverty removal.

Poverty amelioration programmes

Our poverty amelioration programmes are, by and large, well conceived, but at this moment, perhaps, badly implemented. Take the largest of these programmes, the IRDP. Here the idea is to select families below the poverty line (15 million of them in the Sixth Plan), select viable economic activities in each region, marry the family to the activity, provide the necessary capital equipment against a government subsidy and a bank loan, and let the family produce, with its own labour as working capital. In that case, whatever they produce—milk, poultry, pigs, goats, sewn cloth, cart wheels etc.—if sold successfully, will raise their income and (hopefully) push them above the poverty line.

This programme is widely popular and extensively implemented but is passing through teething troubles which need not be long lasting. What is needed is to improve the administrative structure at the block and village levels for the implmentation of these programmes, launch the back up programmes such as buffalo breeding, veterinary support, fodder support, design development and marketing structures and either organise cooperatives or enfranchise some groups for the supply of inputs, technology and design and for marketing. The important thing is to save these programmes from exploitation by the middle-men on the one hand and from the mass percolation of bureaucracy on the other.

One must not fail to note that the agricultural developments of the last quarter century have put a great deal of purchasing power in the hands of agricultural people, have monetised the farm economy greatly and have converted the farmers into major purchasers of industrial, consumer goods and capital goods. A second such revolution in rural purchasing power is obviously in the offing through the current rural development programmes but this has so far gone unnoticed. There is no doubt that our rural development programmes have immense potential for growth as well as redistribution as these are not mere welfare programmes but focus essentially on production.

The agriculture sector

Contrary to the pessimists' view, agricultural production continues the rising trend rather than reach a plateau. From 133 million tonne foodgrains peak of 1981-82 and a 128 million tonnes through of 1982-83, the expectations in 1983-84 are of 148 million tonnes. Nevertheless, the important sub-sectors of edible oils, pulses and other dry-area farming continue to stagnate. It is necessary to focus attention on three aspects in agriculture hereafter :

(i) greater investment in research and technology in oilseeds, pulses and dry area farming;

(ii) structural changes in the eastern and central regions of India from Assam, West Bengal, Orissa and Bihar to Eastern Uttar Pradesh, Madhya Pradesh and Rajasthan, focussing on tenurial security, consolidation of holdings, canal and pumpset irrigation and adoption of new technology already available in the neighbourhood; and

(iii) provision of fertilizers, irrigation channels and electric power at optimal prices.

The public sector

Full-fledged market economies, which are also called capitalist economies, lose their bearings and become a subject of serious critism, primarily because of two factors : On the supply side they replace competitive industry with monopolistic or oligopolistic organisations which then fiddle with the price mechanism, often follow restrict practices, modify consumer demand through advertisement etc. and cannot control cyclical or recessionary behaviour and employment, on the demand side, they often lead to a mal-distribution of income so that market demand does not express real demand and pushes production in the direction of less desirable items. Mixed economies are sought to be organised precisely to eliminate these two difficulties and work successfully only to the extent they manage to remove these limitations.

Now, one of the major instruments of this correction is public sector production and India too resorted to this device for various good reasons—development of infrastructures which are low-rewarding and late-rewarding and which private parties would generally not undertake enthusiastically, achievement of commanding heights so that private elements in society cannot shake up the process of growth either singly or in unison and distribution of essential goods in line with the real needs of the people. The Indian public sector was thus conceived as a production agent of excellence and equity.

However, the primary condition of a successful public sector is that the public enterprises, monopolies as they often are, will not use their monopoly power and would not be exploitative. Moreover, they would exhibit a degree of efficiency in production and distribution of goods and would end up with surplus or profit generation which, when ploughed back into expansion, would strengthen the public sector itself and would bring about growth.

Low profitability

The Indian public enterprises over the last quarter century have doubt-less provided an immense volume of infrastructure—coal, electric power, steel, railways, communications, fertilisers, irrigation and cement—and have sold these at a relatively low price. This in turn has raised the profitability of the agricultural and industrial sectors and has been instrumental in the steady growth of the economy.

But the public sector has not given to itself sufficient profitability and plough back capabilities. Many of the 150 or so centrally owned public enterprises and about 700 State owned public enterprises have been the scene of low profitability, low efficiency, under-utilised capacity and monopolistic practices. Having avoided competition from home or abroad, many of these have become inefficient and smug. Especially in the sector of power, transportation and irrigation, the performance has been questionable, to say the least. It is important therefore that we conduct a stock-taking of those public enterprises which have been doing badly and either introduce an element of competition from within the public sector or induct some non-public sector producers or indeed bring in some highly selected technologies from abroad in order to tone up public sector performance.

There is also a sizable opinion worth reckoning that in order to subject public enterprises to public scrutiny, the shares of these enterprises should be allowed to be held not merely by the governments but, within a certain percentage, by the general public and the workers in the public sector organisations, subject to certain maxima.

In fact, it is the persistent low profitability of public enterprises and the failure of public sector goods to reach the poorer segment of Indian society that has led to a shift of public investment, in the last decade or so, away from the public sector corporations and into public sector programmes. But as the last of the public enterprises has not yet been set up, the revamping of this category is the most serious need of the hour.

Consolidation and productivity

When India's infrastructural and industrial base was very narrow some 30 years ago, it was important to make the public sector the builder and the carrier of infrastructures and a catalytic agent of growth. But, with the structural changes that have already taken place in the economy and with a world experience and resilience outside public enterprises, it is perhaps not necessary to expand public enterprise at the rates prevalent in the past decades. Rather the emphasis should be on a consolidation of what we have now, on the restructuring of the public corporations on fuller utilisation of capacity, on the inculcation of management practices and an emphasis on high productivity and lower capital-output ratio.

One serious cause of under-utilisation of capacity and low capital productivity in public enterprises is infrastructural bottlenecks. One public enterprise depends on the products of other public enterprises. Power depends on coal and coal on power; railway wagons depend on steel, steel depends on power and power again on coal; irrigation depends on fertiliser and fertiliser on oil or gas. Thus there are heavy forward and backward linkages among infrastructural industries and most of these are in the public sector. One crucial remedy for low productivity is to prevent infrastructural shortages and plan for adequate capacity and the fullest possible utilisation of capacity among public enterprises. This is a challenge for future planning and management.

Corporate enterprises emerged as it came to be understood that a government department with its bureaucratic emphasis on *status quo* was not the best organisation to produce for industry and commerce.

Hence public enterprises were supposed to be manned by a technical cadre rather than by the bureaucrats.

But in due course, our enterprises have come to be as bureaucratic as government departments and, therefore, need to be put on a more technical and managerial status. It would be best if the chairman of a public enterprise was not a political person, and if he was, he was only a dignitary rather a functionary. The Managing Director of a public enterprise has to be drawn from a technical cadre and not from bureaucracy unless it be that a particular bureaucrat has been career-planned in the area of that particular enterprise.

Public enterprises were supposed to be responsible and answerable to the legislature and answerable once in a while, say, annually or twice-annually. But in practice, they have come to be answerable to the Ministry or the Department whose day-to-day interference in the affairs of the enterprise in terms of policies, appointments, contracts, production, sales, stocks etc. has become a matter of great concern. The improvements in these areas cannot be postponed any longer.

The maintenance of the Indian economy is in a bad shape. Machinery, equipment and buildings decay extremely fast for lack of maintenance. It is therefore necessary that a five year plan should consist of capital developments of the relevant time period, but also include the maintenance of the capital stick generated in the past five or ten years. As the age composition of Indian capital stock has got weighted in favour of older stock, renewals and replacements are seriously due. 26,000 railway wagons are said to be of old vintage and with a very high hospitalisation rate. Capital renewals and replacements are therefore another challenge to planning.

Role of private sector

As soon as India decided on a strategy of import substitution, we protected home industry from foreign onslaughts through tariff walls and allowed local industry to go ahead subject to licensing and other requirements. Massive infrastructures of power, water supply, road and rail transportation, communication, steel, engineering etc. were provided and the products thereof sold rather cheaply so that private industry and agriculture flourished, on low-cost infrastructures. Great capabilities got built into the private sector, the quantity and the quality of production improved and world horizons were developed in many cases.

Today, the more competent amongst our private producers are poised for big achievements. They are aware of the new technologies and have the horizons for further rapid development. It is important that their area of responsibility be widened and they be allowed to participate in the break-through process.

Lack of competitiveness

But it is also important to note that competitiveness in the private economy is as rare (in many lines) as it is in the public sector. In fact, both public and private enterprises have been the victims of monopolistic—oligopolistic organisation. Production lines like automobiles, tractors, drugs, pharmaceuticals and many others are typically in the hands of dominant concerns. Twenty companies in a given line may produce 10 per cent of the product but the other 90 per cent of the product is often in the hands of 3, 4 or 5 dominant concerns. These are price laeders, collusion makers and restrictive practitioners.

Such oligopolies appear to be competitive but often get together to cut up the market into different segments, differentiating the product and thus avoiding competition. They are also known to prevent licensing of other competitors, pre-empt the licences and not to act upon these. Such market dominant producers fear that a 10 per cent increase in the product may cause a 15 per cent decline in prices and therefore do not generally produce more nor allow others to do so Consequently they do not introduce new technologies, nor lower the cost of the product nor bring about the economies of large scale production which will subsequently benefit the producer.

India today is full of such oligopolistic market-dominant concern Time has come to introduce effectiveness in competition, by licensing more producers, as was done in the automobile industry through the introduction of Maruti, force producers to bring in new technologies, lower costs and prices, widen the market, and convert oligopoly into competition. Judicious import of highly selected foreign technologies which cannot be generated at home, but have the advantages of cost-effectiveness, energy saving etc would be another important element in introducing competition in private industry and making the system efficient.

Other factors

Indian planning would naturally have to take note of the structural changes in society. Besides the widening capabilities of the Central Government, many other capabilities have been emerging in the country. The degree of administrative and technical skill available at the State level is qualitatively different now from what it was 20 years ago. The urban municipalities as well as the rural panchayats are clamouring for more responsibilities. The evolution of both these organisations got truncated some years ago but the plant has not died and has in fact, become quite resilient.

The controversy about the devolution of funds from the Centre to the States hides the need for an important devolution from the States (and perhaps the Centre to the municipalities both urban and rural panchayats). It is time to strengthen their functioning and allocate more finances to them. Aside from these, unofficial and voluntary organisations have emerged in large numbers. Some of them only seek their bread and butter through public funds. But many of them have a high motivation for public work as well as high competence and awareness of the social phenomenon and the grass root requirements. These have to be identified and many a responsibility and functions can be allocated to these voluntary and non-official bodies.

Indian economy in era of planning

K. K. Sharma

The Indian economy despite inadequate growth rate has proved resilient. It has become well-diversified. However, to accelerate the pace of growth and development, restrictive controls on industry should be relaxed. Introduction of employment-oriented technologies will help reduce the incidence of poverty, the author adds.

INDIA STARTED to plan its economy in 1950 and this article summarizes the major achievements and failures of economic planning during the last 34 years. The country adopted a mixed economy with democratic planning, so allowing public and private sectors to exist side by side. In the First Five Year Plan, emphasis was laid on the transformation of the economic system so as to secure greater efficiency in production as well as equality and justice, and to double per capita income as early as possible. For this purpose, the plan envisaged the rate of savings to increase from 5 per cent to 20 per cent of national income between 1950-51 and 1967-68.

There had been a 3.9 per cent average annual growth rate between 1950 and 1982. This is two to three times as high as the rate recorded during British rule. This growth rate compared favourably with that recorded in the industrially advanced countries during their earlier development history, even though they had a better socio-economic environment.

The long-term trend rate in growth of national income was 3.5 per cent and that of per capita income 1.3 per cent. Owing to the rise in the rate of investment during the period gross fixed investment grew at 5.5 per cent. Thus there was a negligible increase in the standard of consumption. Industrial production and agricultural production grew at 6.1 per cent and 2.7 per cent respectively. Therefore, the average trend of growth shows a tendency to decline. In the 25 years after 1955-56, the growth trend rate dropped below four per cent because of the poor performance of the economy from the mid-sixties to mid-seventies. From 1955-56 to 1964-65 industrial growth was rapid and the overall rate of growth was above 4 per cent. In the last ten years, the rate of industrial growth was much lower than in the previous decade, but the overall rate was still above 4 per cent. During this period, there are three distinct phases in the development of the Indian economy.

Three phases

In the first phase, up to the mid-sixties, industrial growth was rapid, but agricultural growth lagged behind. In the second phase, from the mid-sixties to mid-seventies, agricultural growth accelerated, but industrial growth declined. However capital accumulation, the acquisition of skills and the building up of the financial infrastructure grew in an impressive way, resulting in a new phase in the economy.

The decline in consumption rate throughout the entire economy, at 1.1 per cent per annum, was attributable to the growth of population from 1¼ per cent per annum between 1940 and 1950 to 2.2 per cent later on.

The percentage targeted and actual annual growth rates for the various plan periods are given in Table 1.

Table I—Percentage targeted and Actual (Growth Rates)

	Target	Actuals	Growth rate for
First Plan	2.1	3.6	National Income
Second Plan	4.5	4.0	National Income
Third Plan	5 6	2.2	National Income
Fourth Plan	5.7	3.3	Net domestic product
Fifth Plan	4.4	5.2	Gross domestic product

The Sixth Plan provided for an annual growth rate of 5.2 per cent. At 1970-71 prices, the net national product rose by 8.1 per cent in 1980-81, by 4.8 per cent in 1981-82 and by 1.7 per cent in 1982-83. Thus the average annual rate of growth for these years comes to 4.9 per cent. This fall in the annual growth rate from 4.9 per cent to 1.7 per cent is high or nearly 66 per cent. The setback in agriculture depressed the growth rate in 1982-83, but the growth rate of the manufacturing sector was also low—2.4 per cent or less than half of the 4.9 per cent recorded for 1981-82.

The growth rate of national income in 1980-81 was 8.1 per cent. This high rate supported the annual average growth rate for the first three years of the Sixth Plan well above the trend growth rate of about 3 per cent. This is clear from the data on national income for the three years ending 1982-83. There was a steep drop in NNP by 5.3 per cent in 1979-80.

From 1978-79 to 1982-83, the average annual rate of growth comes to 3 per cent. During this period, the per capita income growth rate averaged just 0.8 per cent in view of the population growth rate of 2.2 per cent. This was 2.8 per cent for the first 3 years of the Plan. Table shows the absolute figure of per capita income at 1970-71 prices.

Table 2

Average figure of per capita income (1970-71 prices

Year	Per capita income
1978-79	Rs. 716
1979-80	Rs. 663
1980-81	Rs. 700
1981-82	Rs. 720
1982-83	Rs. 712 1

That means that the average annual growth rate in national income was 5 per cent and the per capita income registered in 1982-83 was somewhat lower than the per capita income in 1978-79. The per capita income of Rs. 720 in 1981-82 will put India in one of the lowest income groups, even among the developing countries.

Since the 1970s, the rate of savings and investments, the tax ratio, food production and foreign exchange earnings have begun to rise rapidly. These developments are significantly changing some of the basic parameters of the Indian economy.

Economy in eighties

Today the Indian economy is far different from what it was when planning was launched in 1950. Since the mid-1970s, sustained efforts have been made to promote growth and to build a diversified industrial structure, and these have proved fruitful. The Government has been following a policy of deepening the capital structure, promoting import substitution and modernising agriculture with increasing emphasis on new technology.

There has been a great increase in the provision of infrastructure. Banking facilities have been taken to the rural areas. The number of Bank branches have risen from about 8,262 in 1969 to about 39,180 in 1982, with over fifty per cent in the rural areas.

There has been phenomenal increases in road mileage, railway route length, shipping tonnage, electric power generated, cultivated area under irrigation and production of aluminium, iron and steel, cement, electric and chemical industries and fertilisers.

The general index of industrial production (1970=100) rose from 54.8 in 1950 to 184 in 1982. The index for the basic and key industries indicates a much higher increase. Most of these basic industries did not exist in 1950. India is virtually self-sufficient in them today. In total industrial output, India today ranks amongst the five most industrialised countries of the world due to the phenomenal growth in basic industries and infrastructure.

Another significant achievement is the growth of science and technology and the development of technical and managerial manpower to run the modern industrial structure. This has considerably reduced the dependence on foreign experts and Indian technical experts are sent to the West Asian, African and South American countries. Growth has been achieved without undue reliance on foreign aid, technology or goods.

Industrialisation and the import substitution policy have significantly changed the composition and direction of foreign trade. Dependence on foreign countries for capital goods has declined. A large number of consumer goods imported earlier are now being produced in India. Thus, the composition of exports has significantly changed in favour of manufactures, engineering products and processed mineral ores. Rapid increase in the export of industrial goods and the growth of skilled manpower have increased our export earnings and brought sizeable inward remittances.

Even though oil prices quadrupled in 1973-74 and again rose in 1979, the foreign exchange reserves were built up. The rapid increase in agricultural output, to about 140 million tonnes in 1983, resulted in a large buffer stock of foodgrains which has virtually eliminated the need to import.

Impact of social services

There has been a spectacular achievement in the expansion of education facilities and provision of social services like public health and sanitation measures. The average life expectancy at birth rose from 32 in 1951 to 54 years in 1981 because of improved health services. The literacy rate rose from 16.6 per cent in 1950 to 38 per cent in 1982. Ninety per cent of children in the age group 6—11 are registered in schools today compared to 33 per cent in 1950. The number of universities rose from 27 in 1950 to 110 in 1982. India now ranks third in the world in the number of technically trained personnel.

The most impressive feature in the growth profile of the economy is the growth in savings. Gross savings rose from about 10 per cent of the GNP in 1950 to 16.5 per cent by 1969-70 and further rose to 24.5 per cent by 1978-79. In 1981-82, the rate was 22.15 per cent. The tax ratio has considerably increased during the period. The tax revenue of the government rose from 6.90 per cent of GNP in 1950 to 12.7 per cent in the early 1970s and was 17 per cent by the end of the decade. In 1978-79, taxes as a proportion of national income crossed the 19 per cent level

Rise in savings

The rise in the savings rate, despite high inflation during the 1970s, is because some of the population save a part of their white income and meet the bulk of their consumption expenditure from unaccounted income. Such has been the growth of the parallel economy, that a large part of the self-employed sector (and even professionals like doctors, lawyers and architects) do not declare their income at all or declare it at a level much below the real figure.

The tax structure aided the growth of the parallel economy, which certain estimates now place at 50 per cent of GDP.

The growth profile of the economy indicates that India was poised for a take off in self-sustained growth. However, when we draw up a balance sheet of achievements and failures and analyse performance in comparative terms, the record is far from impressive. The failures are as large as the successes.

Our economy has not achieved even relative price stability. On December 10, 1983 inflation in India rose to 9.2 per cent on an annual basis compared to 3.2 per cent around the same time last year despite an expected record output of 142 million tonnes in foodgrains. India experienced three great spurts in prices during the last two decades, 1965—67, 1972—74, and 1979—81. They were the result of a sharp decline in foodgrains production caused by drought. The prices of manufactured products trailed behind those of primary products.

This time, inflation is caused not by an excess of demand over supply but by cost-push factors. Industrial growth has been less than 4 per cent for two years in succession and in the public sector plants, steel production is a million tonnes less than last year because of a slack in demand. This inflation bears no relation to the rate of growth or the extent of capacity utilization. It is likely to intensify when the latter falls. Firms can use their monopoly power and raise prices to earn profits. The emergence of this cost push inflation has to be controlled.

Poverty and unemployment

Despite the growth of the economy, the proportion of the population below the poverty line rose from 38 per cent in 1960-61 to 48.4 per cent in 1980. Despite land reforms, the concentration ratio of assets owned by households, mainly agricultural land, rose from 0.65 per cent in 1960 to 0.68 per cent in 1981. The poorest ten per cent owned only 0.1 per cent and the top ten per cent owned more than half of the total assets between 1961-62 and 1971-72.

The number of unemployed and the rate of unemployment has risen during the planning period. There has never been a coincidence between goals and strategy. The plan goals have always been removal of poverty and reduction in unemployment, but the plan strategy has been capital intensive. In fact, the growth of non-agricultural employment has been too low to absorb even a sizeable proportion of the growth in the labour force. Hence a larger part of the growing labour force has been absorbed in the agricultural sector. The number of dependents on agriculture and allied activities has almost been the same during the period, though its share in GDP at 1970-71 prices has gone down significantly from 58.8 per cent in 1950-51 to 40.4 per cent in 1980-81.

Capital-output ratio

The gains in savings were offset by a steadily rising capital-output ratio. This was the natural consequence of diverting resources to the core sector. Import substitution could provide a solution in the short run. Consumer goods industries were encouraged to grow under heavy protection, so generating a demand for the products of capital goods industries. In the long run, the highly skewed distribution was bound to inhibit the development of industries dependent upon mass markets.

The initial phase of import substituting industrialisation brought about a domestic increase in production. This growth rate in industrial production was 7.4 per cent in the First Plan, 6.6 per cent in the Second Plan and 9.0 per cent in the Third Plan. Thus by the mid-sixties domestic industry took over the home market from a wide ranging spectrum of imports. Thereafter, in the three annual plans, growth of industrial output fell to 2.6 per cent per annum. By this time, the limits of import substitution had been reached and the industrialisation drive lost momentum as a narrow domestic market acted as a brake.

Protection and controls

At this time, a change was necessary in the structure of the economy. Protection and controls should have been removed or relaxed considerably to let industries enter foreign markets and face foreign competition. No change was introduced in the basic structure. A regime of strict controls led to slower industrial growth. In the Fourth Plan, industrial growth rate was 3.7 per cent, and rase to 4.9 per cent per annum between 1974 and 1980. Capacity utilisation in industries, particularly in the core sector was less than 60 per cent. This was because the market was narrow and slow growing. Units lacked the incentive to maximise turnover. Profitability could be achieved in a basically sellers' market through lower turn-over and higher margins. The cost structure was further disturbed by high government levies at almost every stage of

(Continued on page 28)

TOWARDS SOCIAL REVOLUTION
a Case for Economic Democracy -
VASANT SATHE

A Serialisation 2

A philosophy of lif[e]
The satisfaction of seekin[g]

There is often an attempt to divide the activities of the brain into those of the intellect or mind and those which belong to the world of intuition or conscience. But the seat of even intuition is, at least anatomically, the brain. It is quite possible to accept the view that the human brain has much more potential than has been realised. It has evolved a great deal and can evolve even further. Even scientifically, using both induction and deduction, one may justifiably conclude that thinking and thought are also a form of energy very much like sound, light, space or time and therefore, open to greater capacities for functioning. But this could be achieved only through proper training by meditation and concentration of the mind or yoga. It is agreed that, in the ultimate analysis, the knowledge of the unknown acquired by mental discipline and meditation called spiritualism, and knowledge of the known or the knowable acquired by science, are in fact coterminous and lead to one and the same thing, namely, the satisfaction of seeking or thirst for knowledge. This motivates all the activity of a human being whether it is to satisfy the most elementary or seemingly physical need, or that of the highest mental or intuitive character.

Even the seekers of the supreme unknown become relevant only because they continue to live as human beings and in the form of human beings communicate and co-relate their experience and their knowledge with fellow human beings even if they cannot precisely describe their experiences in words.

It is their words of advice and wisdom about conducting oneself in day-to-day life and in co-relation with fellow human beings in a manner conducive to happiness which have made the men of realisation relevant. This is so even today even for those who have all the worldly power both over matter and men, but do not have mental peace and hence fall prostrate before everything that may promise to give them mental peace. It is not the higher mental or the other faculty which this godperson acquires which is material or important. Even if it is there genuinely it is still the right perspective and the message of love and compassion that give mental peace. Very often, through the gullible, this encourages innumerable human frauds, because the very criteria in thi[s] sphere are the imponderable unknown and unknow[able], which cannot be contested and which, accord[ing] to some, should not even be put to the test. T[o] do so is held to be blasphemous and scurrilous. Wha[t] is told has to be accepted without question becaus[e] it comes from an experience which cannot be know[n] or described. Thus, we get into a vicious circle. In[stead] of encouraging the spirit of confident enquiry which is essential even to know our real self as well a[s] the unknowable, we encourage superstition and blin[d] faith. Man runs helter-skelter to find peace and think[s] it will come either from the couch of a psychiatrist o[r] from every saffronclad saint, swami or sadhu.

This subject has been discussed at length because i[t] is the basis for all human activity. The seeking of th[e] truth can have no end; the more one knows, th[e] more still remains to be known. Even those who hav[e] achieved realisation have only been able to experience oneness with the unknown or unknowable. The[y] have therefore acquired a perspective, while in th[e] human form, to look at the whole universe and a[t] all life including human life with a sense of detachment. And it is this which they have conveyed t[o] others. But even they have never decried or denigrated the effort of man to know more and more about the universe through other disciplines, such as scienc[e] and mathematics. All that they have urged is that while one does so, the basic perspective should not be lost sight of. If one constantly keeps in one's mind that basic perspective of universal oneness, one can easily avoid falling prey to petty human failings such as envy, hate, violence, caprice and greed. These, instead of leading to happiness, are responsible for the unhappiness not only of an individual but of the whole human community and lead to its destruction.

This universal perspective is the only important contribution made by all those who have achieved realisation or enlightenment. There was nothing in such a perspective which could not be communicated to fellow-human beings and indeed this they did unhesitatingly. Human society as a whole has benefited from the teaching of these enlightened men, whether seers or prophets.

If this one basic fact is accepted, then it should not be difficult even for an ordinary intelligent person to work on both levels—the scientific and the spiritual or intuitive—both being the activities of the mind or 'soul' or supramental consciousness or intuition or whatever name it is given. While at the scientific level one gets demonstrable and repeatable knowledge of the world without, the spiritual level helps one to get the correct perspective towards life itself. It is wrong to say that because the knowledge of the supreme can be acquired only by experience, therefore, it can come only to a few blessed ones, that it can neither be taught nor given by others and, therefore, it must remain the preserve of only those enlightened ones. It is possible to acquire this knowledge by suitably disciplining the mind, the end-result or the test of which is demonstrable and visible in the person concerned and to the extent that he acquires this real universal perspective and equilibrium.

This has been beautifully summed up in Upanishad Mantra which is true both for science and spiritualism. The seer says :

Poorna Madah Purnam Idam

Purnat Purnam Udachate

Purnasya Purnam Adaya

Purnam Eva Avashishyate.

(That universal totality is complete at the macro-level|This reality at the micro-level is also complete—When you take the complete from complete|What remains is also complete.)

The next question that arises is : What is this correct perspective? Here again, if the rationale of the proposition being propounded above is accepted, namely, that a human being or humanity as a whole must rely on its own faculties which are born from cerebral capacities located in the human body and called 'brain', then whether it is the concept of the unknown, of the cosmic soul, of the intuitive mind, of the mind beyond mind, of para-psychology, of transcendental meditation or of any other form that may be invented tomorrow, it will be co-related to and will be achieved through the human brain. Even if there is something beyond the human brain, it will still have to be realised through the human brain and when realised, will have to be co-related again through the human brain. Even the scientists agree that hardly 10 per cent of the faculty or potential of the human brain has so far been utilised or evolved. Thus, there is still tremendous scope for further evolution.

Therefore, when some people talk of meditation as being instrumental in creating a blank mind, they are in fact talking scientifically, just as when you want to fill in a test-tube for some experiment, you empty it, sterlise it and only then allow something new to be put in. A mind which is full of prejudice or preconceived notions will not be able to receive anything not preconceived. This is why very often those who have tried to describe their experience of the unknown have done it in a form or manner with which either consciously or subconsciously they are familiar; either they imagine a big, unknown, unheard of sound, like the Onkar or the 'Amen' or they see a very bright light, manifold and powerful; some have given it the form of the cosmic dance or some other form, but it always springs from what has been heard or read or might be present even in the subconscious. It is quite possible for the human brain to evolve even further to suit man's future existence in space or on some other planet where life might be possible. One can now conceive of the mind getting adjusted to the third and fourth dimensions. What was in the realm of fiction is now scientific truth; this is again a product of the disciplined mind.

Thought is the fastest energy wave and experiments by telepathy, para-psychology and other scientific methods are being made to see if one person can communicate with another, though miles away, as accurately as through a radio wave. Concentrated thought energy, if it could be used, may prove more powerful than any form of energy known yet. So, working on the mental or meditative planes as in yoga, Zen, etc., has to be with a spirit of scientific inquiry. Nothing that is left exclusively to the individual's capacity or to chance, nothing which cannot be co-related, proved and demonstrated should be accepted. Otherwise, here is the real danger of a fraud on human society—not only fraud but the prevention of progress and even the erosion of human stability. Hence, the central theme of this discussion is the willingness to put every proposition to the test of questioning.

Most of the confusion in life today, whether in personal relationships or community relationships of a smaller or greater dimension, arises from the fact that we attribute special power to some individuals and then follow them blindly. It is one thing to admire an architect knowing that he has conceived the blueprint of a big edifice and even if one does not know the entire design, one is aware that he is working, in howsoever, small a way, towards the creation of that edifice. It is another to work with someone believing irrationally that that someone will bring forth miracles. This is happening in practically every field.

But if we decide to make all mental activity part of a harmonious whole, although divided into various disciplines, just as various musical instruments in an orchestra are turned to produce a harmonious composition, it should not be difficult to acquire the correct perspective. The correct perspective, therefore, is not to be spelt out as a theorem and then finding the answer as QED; it is in trying to look at life in its totality and insisting on seeking harmony. This can be done by and can be inculcated into every human mind. It is true that everyone does not become a composer or an architect. But everyone, with a little training and knowledge, can definitely participate in and enjoy the harmonious compositions of a Mazart

or a Ravi Shankar or an architectural creation like the Taj or the beauty of the snow-clad mountains, running brooks, trees, flowers and the entire glory and grandeur of nature.

An easy method which can serve as a test or a touchstone is to ask the question : How has that knowledge been applied to human life in the context of the historical experience in the evolutionary process? We must then ask how that particular knowledge, on whatever plane it has been, intuitive or scientific (which indeed are artificial divisions), has found credibility in human society at various points of time. Sometimes, that particular knowledge or information is applicable long after the individual who gave it to fellow human beings is no longer there in the human body. But whatever be the point of time, the fact remains that all knowledge is relevant only if it can be applied or has the potential of beig applied to humanity. And when one talks of humanity, one must mean human activity in relation to its entire environment : The relationship of human beings vis-a-vis all other forms of life or even with regard to what seems to be lifeless matter, but is now known to be a part of the universal life or universal energy. There is no sphere which can be accepted to be beyond the conceptual faculty of the human mind.

Once this is understood, then the basic cause of confusion can be removed and will disappear. We can then see whether a particular way of behaviour or approach to the environment of matter has been conducive to a person's happiness; this includes the urge to know, achieve and evolve further while seeking harmony.

We know from human history that some individuals had a wider perspective and thought in a larger context which was seldom understood by their fellow beings because of their limited knowledge. But it was those individuals who contributed to what is called 'progress' in the process of hman evolution. These men, by demonstrating their knowledge in the field of material science or by displaying the wisdom of their human relationships, love, compassion, tolerance, or even by sacrificing their own personal selves, have brought about greater peace, happiness and contentment for those who followed the path shown by the knowledge communicated to them. Experience has also shown that not doing what these men have advised has led to harm and unhappiness. This is true of medicine or science or religion. But in none of these fields is there a need to accept anything blindly or as being perpetually valid in its application. A certain code of behaviour is relevant in a particular context, while in a different context the spirit of the code may remain, but its form will lose its validity. Very often die-hards and fanatics confuse the spirit with the form and insist more on the form. This leads to unnecessary confusion and conflict and the spirit of inquiry is lost.

In fact, there should be an attempt to impart the foregoing perspective, which alone brings real peace of mind, to all those who have some influence on human society, large sections of which are either harmed or benefited by their decisions or actions. It is absolutely necessary for those who have acquired positions of authority and power over the life, death, economic prosperity and educational development of their fellow human beings and the options to plunge the world into small wars or into as fearful a catastrophe as even a nuclear holocaust, to have this correct, universal or what can be described as spiritual perspective. Very often, it is in this very day-to-day practical, pragmatic and realistic sphere, that the perspective is lost sight of.

This is particularly noticeable in those who hold positions in government or in industry, business trade or commerce. Just think of these people when they sit in cabinet meetings or in board meetings or in their party meetings and see what they consider to be practical and realistic. As important knowledgeable, experienced and powerful men, they concern themselves only with the immediate gains of either retention or acquisition of power and the accumulation of wordly goods for themselves, their community or country, all in the name of realism and pragmatism. They plan for being 'one-up' on the rest and they arrive at the very pragmatic conclusion that to be able to score they must be able to dominate essentially through material power over other human beings.

Thus, with one simple stroke of pragmatism, spiritual perspective is cut off; what remains is the purely materialistic view of life, namely, the survival of the fittest, with the big fish swallowing the small. All these so-called men of power lose their sleep—thanks to their efforts to immortalise themselves in the history of man, which itself, viewed in the right perspective, is so insignificant a moment of time. Other human beings not placed in such positions of authority in life follow these men in the hope that by doing so they will achieve both material and mental well being. But how can the blind lead the blind ? When these men in authority, in whatever sphere of life, themselves do not have a correct perspective towards life and are not able to apply that perspective to their day-to-day thinking, in fact, even deny this perspective in the name of realism and pragmatism, how can a correct approach conducive to harmony and human happiness be expected ? It is, therefore, necessary for all intelligent persons to apply themselves sincerely to this question.

The time has come when all members of human society—again because of the advance of applied sciences—have come closer to each other, even physically, in the small crucible of the earth, but are not able to find proper parameters of equality to adjust themselves in harmony. The words of wisdom of all the seers and prophets have basically extolled one single principle for achieving this harmony, that is, through love and compassion. All experience has shown that it is only these factors which bring about harmony and happiness. Yet, the conflict arises from the insistence of the adherents of a particular form

or code that their way alone is most conducive to the achievement of this objective. Even if one accepts the bona fides of each believer, their fault lies in that they refuse to make allowance for others having had similar experiences. They refuse to exchange each other's experience or knowledge in an effort to learn and understand each other. Instead, in their impatience, often motivated by ulterior considerations of finding well being and comfort through their beliefs, they try to impose their own concept on others by force. At this stage, the conflict starts. This happens in the political, social, economic, industrial and even cultural fields like education and art.

Therefore, two factors become very pertinent to human belief : (i) Nothing must be accepted without question or inquiry by whosoever and at whatever time of human history it may have been propounded. The validity of knowledge and wisdom will be strengthened through this process and can never be diluted. In fact, basic wisdom should lie in a universal obligation to seek harmony with other wise thoughts. If one decides not to be dogmatic or fanatical about what one considers words of wisdom, whether in religious precepts handed down to us by great seers and prophets or other forms of knowledge, one would immediately realise the importance of this approach, and much of the confusion that exists today would disappear as darkness with a single ray of light. (ii) The second universal experience conducive to human happiness comes from love, understanding and seeking harmony not only with fellow human beings but with the entire existence. The effort to seek happiness of the 'self' without bringing it into conflict with or at the cost of the 'self' in others makes for greater happiness. It is only when one tries to benefit the 'self' by depriving others, either by force or by trickery and by the denial of equal opportunities, that the resentment and conflict start.

Experience shows us that all the great prophets and men of enlightenment like Buddha, Christ, Mohammad, or coming down to the modern age, Gandhi, held this perspective in common. Even when contemporaries were not readily willing to accept it they preached, practised and applied that larger perspective to all human activity; that perspective about greater happiness and harmony. We have to consider therefore whether those who are fortunately placed and in a position to influence human life have that kind of a perspective and whether they are constantly applying it at every stage of their activity to their conduct and to the decisions they take. To the extent that they lose sight of this perspective and succumb to the expediency of immediate gain, whether personal or for a small section or even for a larger section called nation, it is bound to lead to a lack of harmony very much like one instrumentalist going his own way in an orchestra, discordant in relation to the entire composition. This is what is happening in every sphere, but most predominantly in the political one, which today has the largest influence on human life.

There is one simple elementary proposition which can follow all this discussion. That is, for every individual, wherever placed, who is desirous of seeking harmony for the common purpose of achieving human happiness, to believe that the other individual is equally honest, thereby never refusing to have a dialogue or a discussion with the object of seeking understanding, then, to share the outcome of this dialogue with fellow human beings on a wider scale so that they themselves may judge as to which is the best course conducive to their well being.

In the past, the great, enlightened Buddha told people to discard superstition and blind faith and rely on intelligence combined with love, compassion and non-violence. But his followers soon after started chanting 'submit to the intelligent and enlightened and not to intelligence'. The chant was **Buddham Sharanam Gachhami** (I surrender and submit to the enlightened-Buddha), and they made Buddha, who denounced gods, another god !

The same thing happened to the teachings of Christ. He had said love thy neighbour and turn the cheek if struck on one. But more wars have been fought and more blood shed by those who claim to follow Christ !

Again, Prophet Mohammad had declared that Islam meant peace and to each one his belief and that there could be no coercion in the matter of belief. This has been practised more in the breach than in observance by those who claim to follow him.

Among those who profess to follow Vedic precepts and the Vedic way of life, there is almost a near negation of all the great words of wisdom. We were told that "to consider this one as mine and the other as alien is the thought of a narrow mind. To the broad-minded the whole world is one family".

One searching look at ourselves will convince us about our contradictory behaviour.

Hence the most logical course to follow is to think and rely on our intelligence if we really want to understand and solve our problems.

It has been well said that
Those who refuse to think are bigots,
Those who cannot think are fools, and
Those who are not think are cowards.

The power of mind

Once the proposition that all knowledge, even of the unknown or unknowable, can be obtained through the intellect or the mind, which is seated in the brain, is accepted, then, it follows that the approach has to be what is commonly understood as the 'scientific approach' meaning thereby that knowledge thus acquired must fulfil the criteria (a) of being communicable to others, (b) of being demonstrable and capable of being repeated after some training and (c) that it must never be left to the premise that it rests only in one individual who is supposed to have acquired it from some divine source. This scientific or rational approach does not inhibit but is conducive to all inquiry pertaining to the unknown. In fact, this effort to understand has been consistent with the evolution of the human mind.

This effort fluctuates with generations and also varies in the same generation between individuals. But the desire to understand the unknown remains as also the desire to bring it within the realm of science demonstrable and repeatable—and after the unknown becomes known and ceases to be a mystery, to go in further search of the remaining unknown.

For example, it is now understood scientifically that certain species, including the human species, have a similar or common mind; but some experiments have shown the collective experience of mice situated in one place gets transmitted to other mice thousands of miles away and their reaction to a similar situation springs from the remote experience. So, it is rationally and scientifically understandable and demonstable that thought-waves do communicate and influence minds everywhere. If it were possible for them, like radio or television waves (a) to be transmitted in a certain manner on a particular frequency and (b) to be received in the form of a receiver at the other end, it would be possible to communicate telepathically. This is within the realm of scientific achievement and there is nothing mystic or miraculous about it. The same is true about many aspects of parapsychology. It is important to remember that in the process of evolution, thoughts which were conceived in the human mind were brought forth into the reality of science. Man conceived that he could fly like the birds and he was able to do so; he conceived that he could reach the moon and he has been able to do so; he conceived that he could see objects thousands of miles away and he has been able to do so; he conceived that he should be able to see or hear in the future what happened in the past, so, he put down events on film and tape.

Now, in the age of computers, man's mind or intellect is probing deeper into the field of the unknown and is resolving many things that were considered mysterious. But the more you know, the more you will know that much more remains to be known. But this does not deter the human mind from its constant pursuit of knowledge of the unknown; even the feeling that it is the mind, which is the universal mind or the cosmic mind is itself the unknown does not bring man's inquiry to an end. It only gives him the perspective and the sense of detachment of a universal observer and thereby enables him to conduct himself and his activities with greater determination towards a higher degree of harmony.

Having asked the question about the very existence of the unknown and the unknowable and having been willing to apply the answers to that query to life, it will not be necessary then for any man to rely on any other man for miraculous powers—powers which become demonstrable only in the form that they give mental solace or produce some insignificant objects. This man will then not be frightened of human beings who have been placed in certain positions of authority; he will respect and value fellow human beings who have acquired greater knowledge and are able to communicate and serve their fellow human beings better. But this he will do with understanding and love and not because of fear or blind faith.

Thus, two factors which emerge from the foregoing discussion are that there should be (1) continuous inquiry and willingness to question and (2) willingness to understand and love others constantly. Both these factors can have as their basis a universal perspective constaintly guiding all our activities, contributing to happiness and progress. What is important, therefore, is to have what the Vedic seers have called the Sakshi Bhav, that is, the attitude of an observer of the whole cosmic play of the universe, of which the sun and the earth are only two tiny particles. Yet, you have a role in the form of the human body incorporating the human mind to constantly inquire and find out more and more about the entire existence, just like an actor who plays a particular character on the stage and forgets about it the moment he comes into the wings. This approach is within the reach of every individual, however, placed in life he may be. Indeed, it is the realisation of this role which real men of enlightenment have constantly tried to communicate to fellow human beings throughout the process of history.

(Next Issue Part-3—Spiritualism and Science)

Silica from paddy husk

THE Central Fuel Research Institute (CFRI) Dhanbad, has evolved a process for the recovery of pure silica from paddy husk and for production of exalic acid as a by-product. About 20 million tonnes of paddy husk is produced every year by the rice mills in our country. The laboratory has signed an agreement with a firm in the small-scale sector for the development of a pilot plant based on the CFRI process. The firm will have exclusive rights for the commercialisation of this process after the successful operation of the pilot plant.

Technologies for villages

CSIR has brought out a handbook of production oriented and employment generating technologies for rural areas. It aims at optimising the utilisation of local raw material and resources and economic utilisation of by-products and re-cycling of wastes. The list consists of 113 technologies which fall under the following heads: Agro-based, mushroom cultivation and processing, fermentation based, forest-based, poultry-based, marine-based, medicinal and aromatic plants, plant drugs and essential oils and other rural-based technologies.

There are already 138 units which have gone into production using these technologies.

Integrated development of rural economy

D. Bright Singh

Discussing the cumulative forces of growth in the rural sector, the author calls for application of the input-output technique to ensure integrated development of rural economy and the optimum utilisation of resources. This will require the avoidance of wastage and the careful handling of resources to generate surplus incomes which may be reinvested in the villages, says the author.

IN AN ECONOMY such as India's in which the primary sector contributes more than 40 per cent of the national income and where 70 per cent of the population are dependent on agriculture for their living, it is reasonable to hope that this sector may well be the leading sector in the economic growth of the country. The rapid development of the rural sector would imply increased production and higher levels of productivity resulting in surplus income, higher savings and investment in the agricultural sector itself as well as in the industrial and tertiary sectors.

The development of these sectors, in turn, will have a beneficial impact on the rural economy. Such a sequence of growth has taken place in some of the present day industrialised countries, but it has not happened in India. The growth of India's rural economy is disappointingly slow and this combined with a high rate of growth of population keeps down per capita incomes and savings.

With a view to building up of the village economy and improving the conditions of living of the rural masses, Government have launched a series of programmes which include Integrated Rural Development Programme, the Rural Landless Employment Programme and the scheme for providing self-employment opportunities to the educated unemployed. The financial provision for these programmes has been considerably stepped up in the budget for 1984-85.

Execution of programme

But the extent to which satisfactory results can be achieved depends not so much on the size of the outlays as on the manner in which the programmes are formulated and executed. Much has been said and written about Integrated Rural Development Programme, but what has been implemented under the programme does not conform to the basic principle underlying this idea.

Usually when a village is taken up for intensive development, it begins with an economic survey of the village and collection of data relating to population, labour supply, the level of unemployment the earnings of the rural people, agricultural production, the physical assets available—cattle, agricultural implements, roads, irrigation works, water supply, etc.; then an assessment is made of the requirements of the village. It is likely that the representatives of village or its elders may be consulted at this stage.

Then the planners or administrators draw up a programme of development comprising several projects, the costs of which are estimated. The outlays are set against the possible returns, targets are set in respect of spendings and a time limit fixed for completion. The implementation of the programmes results in the creation of tangible assets in the form of schools and shops, new roads, additional water supply and irrigation facilities, increased employment opportunities, etc. These indicators of progress raise the hopes of the villagers and the officers are satisfied that the targets have been reached and out of the funds provided, nothing remains unspent.

Undoubtedly the implementation of all these programmes results in development, but it is not integrated rural development. If the rural economy is to be transformed and if the development process is to get an ongoing character, then it is necessary that the different sectors of the economy are made to grow in an interlinked manner.

Backward and forward linkage effects

The village is an economic unit divided into many sub-units or sectors—agricultural production which may be made up of food production and the growing of commercial crops, agro based industries, roads, irrigation works, markets, schools, etc. These sectors are linked together in the sense that one has an effect on and is influenced by the other. It is possible to distinguish between forward and backward linkage effects. The starting of an industry or the expansion of one sector of the economy would necessitate the growth or expansion of other industries which supply the raw material to the first industry.

Suppose an oil mill is started in the village. This needs more oil seeds and increased supply is possible if more oil seeds are produced or brought in from outside the village. If more is to be produced in the village itself, then it may be necessary to convert lands used for other crops for the growing of oil seeds. If more intensive cultivation is required, it requires the increased use of fertilizers, pesticides, etc.; also employment opportunities are created, more workers are engaged for growing oil crops. All these are backward linkage effects in so far as the new industry casts back its effect on a number of preceding units which have to provide the materials if the new industry is to run smoothly without any hitch.

On the other hand, forward linkage effects denote the influence which the new industry exerts by pushing forward its productive activities. Making use of the output of the oil industry some other industries may be set up. Because of the availability of oil, an oil-refining or oil packing industry may be started. It may encourage the starting of a soap making industry or induce the setting up of a chemical industry and so on.

More than these, the operation of both the backward and forward linkage effects results in increased employment opportunities, higher earnings and higher standards of life of the people. And this necessitates better transport facilities, more schools and hospitals all of which add to the wealth and income of the village.

Interdependence of different sectors

All these aspects of rural development may be known to the planner, but his approach seems to be one of developing the different sectors simultaneously by spreading the investment according to priorities and on the basis of a comprehensive programme of action. But integration in rural development requires that not merely the interdependence between the different sectors is recognized, but what is more important, the inter-relationship is quantitatively assessed.

For example, if a weaving industry is to be set up in the village, the planner should know how much raw cotton is required, how much of this can be supplied by local production, to what extent this will have to be supplemented by imports from outside the village, to what extent land used for some other purpose has to be diverted for the cultivation of cotton, what additional expenses will have to be incurred on this account, how many people will get employment in the weaving industry, what their earnings will be, the likely changes in their expenditure pattern, how many more schools or dispensaries are to be opened or miles of new roads to be built because of the improvement in the economic welfare of the people, etc.

Unless these details of interdependence in quantitative terms are worked out, no programme of integrated rural development can be drawn up. Otherwise, if the concern is only the general all round expansion of the economy, several bottlenecks are likely to emerge; a huge dam may be constructed and a large volume of water may be impounded, but the water remains unutilized because of the lack of an adequate network of irrigation canals. Store houses constructed at huge cost are not fully used or used at all, because of non-availability of an adequate supply of foodgrains or other materials to store; a school building may remain unutilized or under-utilized because adequate number of teachers or pupils are not forthcoming; a multi-storeyed building may remain idle because lift facilities are not provided in time. These are a few of the many instances illustrating the effect of inadequate attention being given to well co-ordinated or integrated development planning.

Sectoral inter-relationship of economy

This underlines the basic fact that if rural economic planning and development is to be of the really integrated type, it is necessary to know how the different sectors of the economy interact on each other. That is, we must know how much an expanding industry or sector requires of the output of other sectors and how much in turn the increased output of the expanding sector will get absorbed in each of the other sectors. This inter-relationship in quantitative terms is brought out in an Input-Output table, the basis of which is the essential fact that the output of one industry becomes the input of other industries.

In an input-output matrix, the distribution of the output of any one industry among the various industries including itself is shown along rows and the absorption of any one industry of the products of other industries as its inputs is shown in columns. What is used up between the industries constitutes inter-industry demand. A part of total output is consumed directly by the final consumers and a part is exported to the neighbouring village or district. Direct consumption plus exports minus imports con-

stitutes final demand. Inter-industry demand added to final demand makes total demand. The value of the inputs in each industry plus the value added in each industry will be equal in value to the total demand or total output. A model of the economy based on this sectoral inter-relationship gives a complete and detailed picture of the entire economy and can be adapted and used for planning the development of a smaller area such as a district or village.

How such a model can be made use of for planning the development of a rural areas can be explained by a highly simplified illustration. We assume that there are only two sectors, the agricultural sector and the agro industries sector. What is produced in the agricultural sector is used partly by the producing sector itself as for example when a part of the output is used for seed purposes and partly by the agro industries sector as when wheat is used up in the baking industry or cotton in the weaving industry or oil seeds in the oil mill. Similarly, the output of the agro industries may be absorbed by the crops producing sector. The ratio of the value of a particular item of input used up in an industry to the total value of output of that industry is the technical co-efficient. Thus if the value of output of industry A is 200 and for this it requires 20 of its own output and 25 of B and 10 of C, then the technical co-efficient in respect of A's output is 20|200 or 0.1 of A, 0.125 of B and 0.05 of C. The inter-relationship between the two sectors mentioned earlier along with their technical co-efficients is shown below. Let CP stand for crop production and AI for agro industries.

Input/Output	CP	AI	Inter-industry demand	Final demand	Total demand
CP	2 (0.25)	4 (0 66)	6	2	
AI	1.5 (0.19)	1.5 (0 25)	3	3	6
Value added	2	3			
	5.5	8.5	—	—	14

[Technical co-efficients are shown within brackets]

The table shows that the value of total crop production is 8. Of this output crop production itself needs the use of 2 as its input, agro industries 4, making a total inter-industry demand of 6. Final demand accounts for 2 and total demand is therefore 8. Similarly, the output of agro industries is divided between the two producing sectors, crop production taking up 1.5, and agro industries themselves an equal amount of 1.5. The final demand for the output of the agro industries is 3, thus adding up to a total demand of 6. The value added in the two sectors—crop production and agro industries—is 2 + 3 and thus the value of the physical product plus value added become equal to the value of total demand. The table shows also the technical co-efficients for the two sectors. Since crop production uses 2 units of its own output as its input the technical co-efficient works out to 2|8 or 0.25; for producing an output of 6 agro industries utilise 4 units of the output of crop production; the technical co-efficient is therefore 4|6 or 0.66. Similarly the other technical co-efficients may be calculated; 1.5|8=0.19 and 1.5|6=0.25.

Inter-industry equilibrium

The significance of technical co-efficients in an input-output matrix for planning purposes may be briefly explained. If we have the final demand figures and the technical co-efficients, we can easily find out the extent to which the output of the various sectors should change when there is to be a change in final demand. The targets with regard to final output, as for example a ten per cent increase in food production or a five per cent increase in oil production, are fixed by the planning authorities. If the target is raised or lowered, it necessitates variations in the output of many other sectors but because of differences in the technical co-efficients, this variation will not be uniform.

Suppose according to a development plan the output of the crop producing sector as shown in the table is to increase from 8 to 10. Then the demand for agro industries output by the crop producing sector will go up to 1.9. This we find by multiplying the technical co-efficient by 10, i.e. $0.19 \times 10 = 1.9$. This means that the present output of the agro industry sector should increase from 6.0 to 6.4. But if the output of agro industries is to rise to 6.4, it will require more of the output of crop producing sector as well as of many other sectors. After a series of adjustments, a new inter-industry equilibrium will be reached. Given the final demand, by setting up a series of equations—as many as there are sectors to be considered—and by simultaneously solving these equations, the repercussions of a given variation in final demand on the different sectors can be found and their equilibrium output levels determined.

This brings out the significance of sectoral inter-dependence in practical planning. It is clear that if integrated rural development is the objective, an inter-industry model has to be constructed which should form the basis for fixing the output targets in respect of the various sectors. If the model is to be realistic, the number of sectors to be covered should be sufficiently large. In fact the reliability of the model depends on the number of sectors in which the economy is sub-divided and the accuracy of the data used for estimating the technical co-efficients. The use of such a model ensures consistency between the targets of output fixed for the different sectors. There will then be no possibility of excess production in one sector or deficiency in another or any chance of underutilization of capacity. This is so because the programme of development of any one sector gets linked up with the programmes of the other sectors. Thus, if a new rural industry is started, its need for raw materials will be taken care of and the market for its products will be provided for. Also, the building up of economic and social over-

(Continued on page 24)

Private foreign investment in India

S. K. Ray

Private foreign investment is one of the paradoxes of India's economic profile. It has attracted large attention in economic and political discussions and has been the subject-matter of important policy enunciations, both before and after independence.

CONTRARY TO THE POPULAR belief, the inflow of foreign capital on non-official transfer has really not been prolific, even in absolute terms. It has in fact been a small proportion of the aggregate foreign aids.

Before independence

To describe the foreign capital invested in India as 'the export of British capital' would be what R. Palme Dutt described as 'too bitter a parody of the reality'. The British political interests carefully covered up the grim fact of capital 'exploited out' of India as 'imperial levies' or 'tributes', and overemphasised the extent of British investments in Indian industries even though it did not actually involve substantial 'inflow' of capital from Great Britain.

There was in reality a two-pronged flow of capital, one from Great Britain to India and the other in the reverse direction. The former was a trickle and was largely assigned to imperialist expenses on armed forces. In fact, 'the export of capital from England to India was more than counterbalanced many times over by the opposite flow of tribute from India to England'.

Thus the British capital invested in India was rather miniscule. The new mercantile, banking and plantation enterprises which arose in the first half of the nineteenth century were mostly financed by British officials in India out of their savings.

Even after fast, high and ostentatious living, much of which came from their perquisites and privileges, the British in India used to pile huge surpluses which went into investment in Indian industries. "It is no wonder that most of the European industries did not experience scarcity of capital".

Here I may refer to John Maynard Keynes in support of my contention. Keynes found that between 1899-1909, the amount of new capital invested in India (£ 4 to 5 million) and the aggregate of interests accrued on foreign private investments were almost equal.

Keynes' estimates were consistent with the estimates made by some other economists who have probed the subject. For instance Y. S. Pandit's indirect estimates of capital transfers between India and Great Britain, or for that matter Imlah's derivative estimates that during 1796-1913 the income from foreign investments by British citizens 'not only filled in whatever gaps were created by deficits on trade and services, but also supplied most of the surpluses which were available for new investments abroad' had fully endorsed the Keynesian viewpoint.

In the absence of precise and reliable estimates, recurrent tall claims continued to overemphasise the importance of British investments. Findlay Shirras put the amount of foreign investments in 1929 at £ 500 million; but this was almost immediately challenged by others who pointed out that Shirras had entirely neglected the rupee company holdings of foreigners aswell as rupee securities owned by them.

G. D. Birla suggested that the amount of foreign investment in 1929 could be as high as £ 1000 million if foreigners' holdings of all kinds of rupee securities and the value of investments in incorporated business were taken into account. But in the ab-

sence of any statistical support, Birla's estimates looked like guestimates.

V. K. R. V. Rao produced a compromise figure of £ 637.5 million, but his estimation was essentially conjectural. B. R. Shenoy's estimate of £ 829.8 million for 1939 was similarly based on many assumptions.

In today's context these estimates have lost much of their significance, and it is apparent that these were not supported by much of accurate statistical evaluation.

On an appraisal of all these estimates, it is my opinion that it would be a safe bet to place private foreign investment in the early forties at around £ 1,000 million, even though bulk of it had generated from out of Indian business and Indian connections.

After independence

After independence India has attracted continually rising flows of foreign investment and has in the process contracted substantial foreign aid. There was however extensive politico-economic criticism of foreign capital as to its repercussions on private foreign investment.

In such discussions however foreign aid on official transfer, even though it formed the bulk of foreign capital-inflow, has not often become the focus of attention. It is rather paradoxical that foreign aid on official account has evoked adverse criticism only desultorily, except for the recent public concern over the staggering IMF loan in early eighties. It has normally been private foreign investment which earned most of the ire and was a constant butt of obloquy, even though it was a small proportion of the total.

It is in fact one of the inscrutabilities of Indian economic writings that even though official aid played a significantly greater role in India's industrialisation, private foreign investment became the focus of attention and criticism.

It has thus been estimated that on a gross basis the Indian absorption of foreign aid and private foreign investment during 1948-1961 was in the ratio of 4.6 : 1, and on a net (of amortization and interest|dividends) basis, was in the proportion 6 : 1.

Indian business and trading interests were understandably allergic to private foreign investment. They had not apparently got out of the hangover of foreign exploitation. The economic and political thinkers continued to entertain a similar concept.

That, in the altogether transformed circumstances of independent India, it could be possible for the country to attract substantial private foreign investment with due care and caution about terms and conditions, strings and contretemps was not adequately appreciated.

It was also not adequately realised that in the formative years of industrial development after freedom, and the rigidities of indigenous resources, it was expedient and useful to attract both foreign capital and foreign technology without succumbing to exploitation.

In view of such a lack of proper perspective, the views of both industrialists and economists on the inflow of private foreign investment has continued to be adverse and critical. In fact, apart from public opinion reflected through such criticism, even responsible political and official opinions were not initially favourable.

That this has been so is indicated in a critical appreciation of the issues by the National Planning Committee of the Indian National Congress in November 1945 in a Resolution on Economic Policy as also in the Industrial Policy Resolution of 1948. Both these commented adversely on the tendency towards wanton resort to private foreign investment forgetting centuries of economic exploitation before independence.

There was however an emerging core of important public opinion which was gradually becoming appreciative of the role of private foreign capital in giving a hand to the reluctant indigenous private capital in promoting industrial development.

The exponents of this school believed that this was essential in the formative years of development. They also believed that it was possible to be careful of strings and contretemps with forethought and deliberation, so that the inflow of private foreign investment was not allowed to become inimical to national interests, and were not allowed to operate and proliferate in perpetuity.

These views found favourable response in the Government and far from prohibiting foreign capital or throwing it out of the national frontiers lock, stock and barrel, the Government on the contrary took an encouraging stance and a favourable policy towards private foreign investment. The culmination of the trend was the historic Nehru Resolution.

The Nehru Resolution

In April 1949 Jawaharlal Nehru as India's Prime Minister enunciated the liberalised policy towards private foreign investment in a formal pronouncement.

The broad profile of this important enunciation needs to be carefully delineated. This has been done in the subsequent paragraphs in respect of their specific important attributes.

. Existing foreign interests would receive 'national treatment' : 'Government do not intend to place any restrictions or impose any conditions which are not applicable to similar Indian enterprises.'

New ventures and inflows of foreign capital would be encouraged; 'Government would so frame their policy as to enable further foreign capital to be invested in India on terms and conditions that are mutually advantageous'.

Profits and remittances abroad would be permissible, as would capital remittances of concerns that may in the national interest have to be 'compulsorily requited'.

Fair and equitable compensation would be paid 'if and when foreign enterprises are compulsorily acquired'.

Majority ownership by Indians was preferred. Nevertheless, Government will not object to foreign capital having control of a concern for a limited period, if it is found to be in the national interest, and each individual case will be dealt with on its own merits.

'Vital importance' was still attached to rapid Indianisation of personnel but 'Government would not object to the employment of non-Indians in posts requiring technical skill and experience, when Indians of requisite qualifications are not available......'

The Nehru Resolution has continued to serve as the magna carta on private foreign capital, and has guided its entry, proliferation and repatriation right through the plan-period. Despite opposition from local industrialists and important lobbies in the Government and the Parliament, private foreign investment has had thereafter a comparatively easier run.

Except for the abolition of the managing agency system and removal of some multi-nationals from the scene, the Government has been quite soft and benevolent to such investment. In fact private foreign investment has even been allowed sufficient participation in management, particularly when it was involved also in the import of technology.

Some of the important factors, which led to this trend favouring import of private foreign investment, included diverse circumstances ranging from the need for updating and uprating technology-standards, supplementing total availability of industrial capital and (except for a bright interregnum) counteracting a deteriorating export-import account leading to adversities in the exchange-counter.

The specific circumstances can well be discussed in terms of the need for technology import, the failure of the private sector, the failures on the exchange counter and the safeguards required in the import and usage of private foreign investment.

Circumstances for foreign investment

India needed to import technology, and sometimes, this would flow along with capital and management. The Government of India had encouraged this, and arranged many ad hoc as also regular arrangements allowing repatriation, majority ownership, avoidance of double taxation etc. to foreign investors.

It was appreciated that there could be no industrial revolution, not even substantial industrial development with capital-intensity, with the prevalent availability of out-of-time technology. It was absolutely necessary to both uprate and update it.

In fact it was essential in many cases that instead of compromises of partial replacement and uprating, new and latest technology was imported. Both uprating and updating (also simultaneously involving substantial import) of technology was facilitated by liberalised inflows of private foreign investment.

The public sector in India continued to show its ostrich-like tendencies to divert their surpluses into the folds of the parallel economy instead of ploughing its resources into business, to compete with the rest of the economic sectors for institutional finance.

The requirement of industrial development in the private sector was so colossal that the Government and the Planning Commission realised that but for private foreign investment taking a hand, industrial development itself could suffer.

It was not that the magnets of the private sector had not realised this. They did. But they were at the same time apprehensive that the control and leadership of the private sector could, as in the British days, pass into the hands of the foreign investors.

It was becoming apparent that but for such onflow of private foreign capital, planned development outside the Government and public sectors would seriously suffer in many basic sectors in the context of the emerging foreign exchange crisis of the late 'fifties'.

After the euphoria of economic-political emancipation was over, it was found that the growth of industrial development in the private sector failed to take off to burgeoning levels earlier anticipated, and there were continuing deterioration in the exchange-counters. The need for imports of machineries and other accessories of industrialisation steadily increased with every passing year, while exports failed to develop in requisite dimensions.

This signified that not enough foreign exchange would be released, and that private foreign exchange free from unfavourable contretemps was to be also relied upon.

As a result, the pressure-groups in the Government and the Planning Commission, opposed to the continuance of foreign-capital inflows on private account, found themselves in a minority, and had for some time to stay their hands.

While it was apparent that the country, in the interest of accelerated industrial development, could not do without private foreign investment, the experiences of the foreign regime as also with the managing agencies and multi-nationals were difficult to gloss over.

Safeguards against foreign Capital

While agreeing and even promoting the continued inflow and usage of foreign capital in the cause of swift development of Indian industries duly supported by a technology-revolution, the Government was also obliged to take a number of safeguards essential to ensure that there was no resumption of economic exploitation by foreign private capital.

In fact some of these safeguards were cooly but dexterously incorporated in the Nehru Resolution itself within such phrases as 'foreign enterprises compulsorily acquired', 'foreign capital having control of a concern for a limited period', 'rapid Indianisation of personnel' etc.

Thus except for a few exceptions like drugs, aluminium, heavy electrical equipment, fertilizers and synthetic rubber, as mentioned by Kidron, foreign private investment was not allowed to infiltrate in the basic sectors spearheaded by steel.

The need for imposing safeguards was thus appreciated. For one thing, the Government kept almost all the key or basic industries like steel et al out of bound for private foreign investment. For another, the latter was also kept out of a number of 'essential' commodities, as also in the development of 'infrastructure', 'trade' and 'commerce'.

An appraisal

This then has been the perspective on private foreign investment. It is apparent that in the formative years of post-independence economic development, private foreign investment had some important merits.

The different advantageous aspects of private foreign investment have been indicated below :

* It provided capital when and where it was deficient or not available.
* It provided technology to promote the cause of industrial development.
* It set certain standards of performance, wage structure and quality control fit for emulation by indigenous industries.
* It led to updating as also uprating of not only technology but also management practices.
* It encouraged and facilitated management and personnel development programmes on modern concepts and methods.

But there were a number of inadequacies and shortcomings as well. These could be enumerated as under:

* It had no egalitarian objectives and wanted to perform in sure and clear profit-centres.
* Increasing control of foreign investors in India's industrial scenario.
* Heavy remittances from India to foreign countries increasing the strain on our deteriorating foreign exchange crisis.
* A frequent tendency on the part of the foreign investors to offload behind-the-time equipment and obsolete machinery into Indian industrialisation.

While the shortcomings have to be safeguarded by appropriate safeguards, the advantages should be availed of in the development of the industrial firmament in India. When India cannot do without private foreign investments in the formative years of India's industrial development, the Government has to be careful about how to use it and with what precautions.

The poignant issue of stark economic realities is how long will India's formative years continue ? We attained independence in 1947 and started on planned economic development from the early fifties. We are now proceeding to the middle of the eighties.

In around thirty-five years we ought to have achieved substaintial freedom both from foreign aids on official transfers as also private foreign investments. That this has not happened and we appear to be getting more and more submerged in catapult-burdens of debt-servicing on both counts and crucible factors in the assessment of economic planning in the Indian situation.

Magnitude

The magnitude of private foreign investment during the inception of organized planning in India had picked up swiftly. Thus the first decade of organized economic planning during 1948 to 1961 saw substantial inflow of private foreign investment. In fact the trend which started on the attainment of independence had picked up momentum during the first few Five Year Plans.

The profile for the first development decade is shown in Table 1.

Table 1

India : distribution of foreign business investment from private sources by industry, mid-1948 to end 1961

(Rupees in crores)

	Mid 1948		End 1961		Percentage growth 1948-61
	Investment	%	Investment	%	
Plantations	52.3	20.4	103.8	17.9	198
Mining	11 5	4 5	12.4	2.1	108
Petroleum	22.3	8.7	148 6	25 6	666
Manufacturing	71.0	27.8	219.4	37.8	302
Foods, beverages, etc.	10.1	14.2	36.1	16.0	357
Textile products	28.0	39.4	20.7	9.4	74
Transport equipment	1 0	1.4	13.0	5.9	1,300
Machinery and machine tools	1 2	1.7	11.4	5.2	950
Metals and metal products	8.0	11.3	32.1	14.6	401
Electricity goods and machinery	4.8	6.8	14.7	6.7	306
Chemicals and allied products	8.0	11.3	50.5	23.0	631
Others	9.9	13.9	40.9	18.6	415
Trading	43.1	16.8	29.3	5.1	68
Construction, utilities, transport	31.2	12.2	41.3	7.1	132
Financial (excluding banks)	6.8	2.7	6.3	1.1	93
Miscell aneous	17.7	6.9	19.3	3.3	109
Total	255.9	100.0	580.4	100.0	227

Table 2

Breakdown for 1960	Rupees in crores	%
Within Manufacturing		
Cigarettes and tobacco	24.3	13.2
Medicines and pharmaceuticals	17.0	9.2
Building and building materials	6.8	3.7
Rubber goods	12.2	6.6
Total (including others)	184.3	100 0
Other than manufacturing		
Managing agencies	23.3	4.1
Total business investment (including others)	566.3	100.0

It is possible to give a more detailed breakdown for the year ending 31 December 1960. The changes since mid-1984 for selected industries are as given in Tables.

The trend has continued unabated, with the bulk of such investment going to the manufactories and manufacturing sectors. Thus by 1974 the aggregate quantum of private investment increased from Rs. 256 crores in 1948, to Rs. 580.5 crores in early 1962, and to Rs. 1,944 crores in 1974.

The position is indicated below :

Table 3

Private foreign investments in India

(Rupees in crores)

Outstanding at the end of March	1955	1970	1971	1972	1973	1974
Manufacturing	129	954	969	1,005	1,005	1,073
Services	113	361	387	431	483	564
Petroleum	104	187	172	179	172	176
Plantations	87	126	125	126	120	114
Mining	9	14	16	16	18	17
Total	422	1,642	1,669	1,757	1,858	1,944

The countrywise distribution of the total of Rs. 1,944 crores in 1974 has been as under :

Table 4

Countrywise distribution of Private foreign investment

Country	Rupees in crores
UK	689
USA	531
West Germany	181
Others in cluding Italy, France, Switzerland and Japan	543
Total	1,944

This is the latest official information that is available. This also indicates the preponderance of the manufacturing industries in the absorption of such investments; Rs. 1,073 crores out of a total of Rs. 1,944 crores.

Absorption

As regards the absorption of private foreign investment by the different industrial sectors, the following points can be made :

* In the manufacturing sector the principal industries that attracted such investments were chemicals and chemical-based industries (nearly 40 per cent of Rs. 1,073 crores), metals and metal products, foods and beverages.
* The 25 per cent of Rs. 1,944 crores which was absorbed by the service sector included infrastructures and utilities.
* Finally, petroleum itself absorbed a good Rs. 176 crores.
* According to unofficial and my own estimates (based on both official mainly RBI and unofficial sources), the total quantum of private foreign investment in early 1983 should have exceeded Rs. 3,000 crores by another Rs. 300 to 500 crores.

There have also been important qualitative changes, in that investments in both petroleum and plantation industries have substantially come down, with the nationalisation of petroleum industries on the one hand and abolition of managing agencies on the other.

The overwhelming absorption now is in the manufacturing industries, being around 62 per cent of the total, and utilities and infrastructures, around 89 per cent of the total.

Given favourable conditions, more foreign capital can be attracted to India. In view of the fact that our needs for development imports will continue to keep balance of payments in deficit, and that we need also high-level technology in certain sectors, it is likely that there will be a further increase in this type of capital in the years to come. There will also be increased international partnerships and collaborations both amongst foreign countries as also India and one or more foreign countries.

An ancillary manifestation of the inflow of foreign private investment is in the field of industrial collaborations. Instead of taking bare foreign loans or importing machineries from abroad, it has frequently been expedient to enter into collaboration arrangements.

In this connection the principal landmarks have been as under :

* Such collaborations have been confined more or less in high-priority areas requiring modern technology from abroad.

In fact in many of these instances, the principal causative factor has been the need for importing the latest technology more than capital resources by itself.

* There has been some collaboration with foreign investors by way of contribution in equity capital. This however has been suspect with the Indian industrial milieu and has therefore been allowed on a highly selective basis.

When such foreign participation in equity capital is also tied to contract-purchases of equipment and machinery from the investors, such participation in the final analysis may prove quite costly.

No wonder that the Government also has been quite wary of this and has not quite encouraged the practice.

India has collaborated with one or more countries abroad in executing industrial projects outside India, and in bidding for such contracts through global tenders.

This is a development which has great potentials, particularly in countries of South and South East Asia, the Middle East and New Africa. This is a trend of great national merits and should be fully encouraged.

The system should be practised with appropriate safeguards for major industrial projects inside India, and not only at the construction stage as is now the normal practice, but also in the operative stage. The trend has the additional advantage in case of collaborations involving construction and management outside our frontiers for bringing valuable foreign exchange remittances to India. □

Planning For Integrated Rural Development

(*Continued from page* 18)

head facilities will be related to the actual needs that may be expected to arise. Such a scientific approach to planning for rural development will avoid the inconsistencies and defects of the usual rule of thumb method involving allocation of scarce resources among the competing sectors on an intuitive basis. Furthermore, the application of the input-output technique will ensure integrated development of the rural economy and the optimum utilization of resource. The avoidance of wastage and the careful handling of the resources will generate surplus incomes which may be reinvested in the villages or a part of it may be transferred to the non-agricultural sectors for investment. This will trigger off the forces of growth in the rural sector and possibly in the economy as a whole. □

Why do Price increase?

C.M. Chaudhary

Monetary, fiscal and institutional factors and structural and development changes are some of the major causes of inflation. It is a matter of concern for a developing economy when we want to accelerate the pace of economic growth with stability and social justice.

THEORIES OF INFLATION have identified different types of factors causing inflationary rise in prices both in developed and developing economies. The old version of quantity theory of money "too much money chasing too few goods", the Keynesian "inflationary gap" explanation of wage price spiral and the modern quantity theoretical explanation "excess cash balances" triggering inflationary process have originated in the West and were inspired by the conditions prevailing there.

Say's Law of Demand, "supply creates its own demand" was disproved by the Great Depression of thirties in which the predominant concern was unemployment and idle capacity caused by lack of demand for goods and services in the industrial economies of the West and it was replaced by an equally strong concern about the inflationary rise in prices during the post-Second World War period, particularly since the late 1960s.

The Keynesian solution which cured the World-wide depression of thirties, did not prove to be fruitful in solving the problem of inflationary rise in prices which has become a world-wide phenomenon both in developed and developing nations. Keynes' exclusive emphasis on the manipulation of aggregate demand to bring about desired changes in the level of employment and income did not deliver the goods when applied to contain the inflationary tendencies. The period from the late 1960s by and large is characterised by inflationary recession both in developed and developing economies.

Structuralists' school

There is no doubt that Keynesian economics dominated the thinking and policy making in the industrial economies of the West. Meanwhile structural inflation school originated in Latin America in 1960s which linked to the very process of development and the structural changes caused by it. This school has pointed out that the supply rigidities, bottlenecks, structural imbalances and propagation factors having cumulative effects have caused inflation in developing economies.

Besides, the structural factors are deeply rooted in the very state of under development of an economy and it hinders the very process of economic development. Some of structuralist hypotheses have been discussed to point out the factors leading to inflationary pressures in a developing economy. The following are the dominant hypotheses causing inflationary rise in prices :

(1) Agricultural bottleneck,

(2) Changes in the composition of demand,

(3) Export instability and unfavourable terms of trade,

(4) The shortage of foreign exchange reserves,

(5) Changing role of political and economic power groups.

Indian case

The above mentioned structuralist hypotheses have a considerable impact on inflationary pressures in a developing economy like India. Some of the eminent Indian economists like K. N. Raj, S. Chakravarty, Dr. P. R. Brahmananda and late Professor C. N. Vakil have also explicitly focussed their attention on one or more of these structuralist variables during last two decades and have clearly pointed out

that these factors have contributed sustained rise in prices in India, particularly since the mid-1980s.

In a recent study on "Inflation in India : Monetarists—structuralists Approach", Mr. A. V. Ranganadhachari has stated, "If one tries to analyse price behaviour in developing economies like India in terms of proximate causes much as excess demand, it will not only be inadequate as a diagnosis but also may lead to simplistic policy formulations. Instead of stepping with surface level analysis focussing on monetary and fiscal factors, it is argued that we should identify institutional factors and structural changes that have an impact on price behaviour in such economies".

Causes of inflation

The structural and institutional factors have been the root cause of inflationary trends in Indian economy beginning from the 1950s at a slow rate first, accelerating from the mid-1960s and recording considerable high rates in the first half of the 1970s. The summary statement of these factors can be studied as given under :

First, every five year plan strategy adapted for accelerating development caused variation in the composition of domestic output and foreign trade with adverse influence on internal price level second, economic development caused forced pace of structural changes which led to price instability; third, rise in human expectations caused psychological inflationary trends; fourth, a number of controls with no firm economic justification and efficient administration encouraged parallel economy making monetary and fiscal measures ineffective; fifth, lack of effective institutional measures widened the inequalities of income and wealth defeating the very basis of socialist pattern of society as envisaged in the Second Five-Year Plan; sixth, international transmission of inflationary pressure through international trade and different types of transactions undertaken; and seventh, distributive trade has got inflationary nature which has created sellers' market tendencies both in developed and developing economies.

After dealing with the background of inflation, we present recent inflationary trends and its explanatory factors in a developing economy like India.

Determinants of inflation

The purpose is to bring together the determinants of inflation and its relationship. Inflation rate is measured by annual changes in the wholesale price indices of all commodities with 1970-71 as the base year. The determinants of inflation can be enumerated as follows : Money supply; All Government expenditure; Budgetary deficit; NNP at factor cost, Foodgrains production; Net availability of foodgrains; Index of industrial output; Index of agricultural prices relative to industrial prices; Composition of consumption and capital goods production; Current account balance of foreign trade; and terms of trade (ratio between unit values of exports and imports).

Table 1

Year	Inflation	Money supply	Government expenditure	Budget deficits
1	2	3	4	5
1970-71 . .	..	..	..	..
1971-72 . .	8.2	2.9	18.8	74.1
1972-73 . .	12.3	13.1	17.2	15.5
1973-74 . .	21.8	17.7	9.4	—36.1
1974-75 . .	10.1	10.8	6.4	27.3
1975-76 . .	—6.5	18.2	17.4	—49.6
1976-77 . .	12.0	18.8	25.9	—61.5
1977-78 . .	0 3	—8.1	9.1	658.2
1978-79 . .	4.6	19.8	18.7	—37.9
1979-80 . .	22.5	15.9	11.8	452.1
1980-81 . .	16.7	16.7	18.4	30 0
1981-82 . .	2.4	6 3	18.9	—34.7
1982-83 . .	6 2	15.0	22.4	7.6
1983-84 . .	10.7	11 0	10.8 (B.E)	—13.9 (B.E.)

Source—Economic survey, 1983-84, Govt. of India.

The above table clearly indicates the relationship between monetary and fiscal factors and inflationary trends during 1970-71 to 1983-84. The overall budget has been included to point out the fiscal instability which is an important variable of monetarists. The definition of money supply in the narrow sense has been included because in a developing economy like India it holds good than the broader definition given by Professor Milton Friedman. The table shows the surface validity of the quantity theory explanation of inflationary tendencies in India.

Now we can study the relationship between foodgrains production, NNP at constant prices, industrial production and inflation.

Table 2

Year	NNP at constant Prices	Foodgrains Production	Industrial Production	Inflation
1	2	3	4	5
1970-71 . .	..	..	..	..
1971-72 . .	1.4	—3 0	0 1	8 2
1972-73 . .	—1.5	—7.7	7.2	12 3
1973-74 . .	5 2	7.9	0.6	21 8
1974-75 . .	1.2	—4.6	0.6	10 1
1975-76 . .	9 8	22.0	16.2	—6.5
1976-77 . .	0.5	—8.4	3 4	12 0
1977-78 . .	9.1	13.7	6.8	0 5
1978-79 . .	5.5	4.3	1.2	4.6
1979-80 . .	—5.8	118 5	0.7	22.5
1980-81 . .	8.1	18.4	9.3	16.7
1981-82 . .	5.1	—12.2	3.5	2.4
1982-83 . .	1.8	—3.7	3.9	6 2
1983-84 Anticipated . .	6.7	12.0	4.2	10.7

Source : Economic Survery, 1983-84 Govt. of India

Late Professor C. N. Vakil and Dr. P. R. Brahmananda in their work on "Planning for an Expanding Economy" emphasised the role of wage goods in

(Continued on page 30)

Plant protection–a must

Dr. R.P. Singh

For increasing the agricultural production, plant protection is a must. Protection from pests is as important as use of irrigation, high-yielding varieties and fertilizer. But, the author points out, the farmers need to be educated about judicious use of pesticides. Otherwise the boon can turn into bane.

THERE IS NO denying the fact that India has achieved appreciable results in the field of agriculture since independence and particularly during the last two decades. Yet our achievements have not been as impressive as they ought to be or could be.

One of the important factors responsible for a wide gap between the actual on one hand and the desirable and possible on the other is inadequate and ineffective plant protection cover. Although the situation in this regard has very much improved over the past few years, much still remains to be done.

Our average per hectare consumption of pesticides has increased from about 15 gms. to over 400 gms. since the introduction of high-yielding varieties in mid-sixties. However, our national average is less than 500gms. per hectare as against of more than 10,000 gms. in Japan and with much less pollution problem. The problem of pollution in our country is not because of use of pesticides *per se* but more so because the same are not being used judiciously. So far as biological control is concerned, howsoever important it may be from cost as well as pollution point of view, it does not hold much promise at least in foreseable future. For effective control of pests, therefore, chemical control will have to be heavily relied upon for a long time to come.

It is estimated that nearly one-third of all the food produced in the world is lost to various pests including, in the main, insects, diseases and weeds But for pesticides, another third would be further lost. In India, pests annually take a heavy toll of more than 20 per cent of the agricultural produce, a loss estimated at more than Rs. 10 000 crores. A recent survey by the National Council of Applied Economic Research has revealed that every one rupee spent on plant protection, other things remaining constant, would protect, on an average, crop output worth Rs. 4 which otherwise would have been lost to pests. The avoidable losses due to various pests is estimated to be around Rs. 6,000 crores per annum.

For maximising agricultural production, plant protection has to be recognised as important as irrigation high-yielding varieties and fertilizers. The desired results cannot be achieved unless it is made an integral part of the entire farming system. Some crops and high-yielding varieties are more vulnerable to pests and hence the need for more vigorous plant protection measures. Pulses and oilseeds in general suffer most from pest hazards resulting in a big gap between the demand and supply. We are importing edible oils worth Rs. 800 crores every year causing a heavy strain on our foreign exchange. In fact, the import bill of oilseeds is now even more than that of foodgrains earlier.

A key factor

Plant protection is decidedly the key factor in maximising production of pulses and oilseeds. But at present these crops get less than 5 per cent of the total pesticides used in the country.

What is important for any crop is not percentage share but the actual use of pesticides per unit of cropped area. Somehow the farmers seem to be still sceptical about the efficacy of plant protection measures against pests. The farmers have to be educated and

convinced that adequate and effective plant protection measures alone can lead to a substantial increase in production of oilseeds and pulses.

Farmers are increasingly becoming aware of controlling weeds also. Some of the weeds like Phalaris minor and avena ludoviciaa are becoming a serious meanace to wheat crop. These weeds have already assumed a threatening proportion in some area. Wheat crop will be plagued by these weeds if sincere and concerted efforts are not made without losing time to control them, if not to eradicate. There are herbicides available which can effectively control these weeds. Herbicides constitute less than three per cent of all the pesticides consumed in our country. The corresponding world average is as high as 45 per cent.

This fact should not be lost sight of that without an effective plant protection umbrella, the full potential of high-yielding varieties cannot be exploited even with adequate water, balanced fertilization and sound agronomic practices. The extension workers have to make considerable efforts for promoting large-scale adoption of integrated pest management practices including biological, cultural and chemical control measures. They have to be fully backed by the concerned specialists by way of technical know-how. Although the importance of biological and cultural methods of pest control cannot be undermined, the fact remains that in many situations, chemical control is the most powerful and dependable tool for the management of pest population. Not only that, it is the only known measures against many of the world's most important pests of agriculture and public health. But majority of the farmers still consider the use of pesticides as optional and not complementary to other inputs required for boosting and stabilising agricultural production, necessitating a radical change in ther outlook. It is by and large the extension workers who are expected to bring about this change. Having done this, they can help the farmers make judicious use of pesticides.

It usually happens that the farmers apply insecticides immediately on appearance of insects regardless of their population. They should be advised to take into account the extent of pest build up. It may be uneconomical to use pesticides in a crop if the pest population is below the economic damage threshold.

In crops like wheat and rice, seed treatment is recommended against seed-borne diseases. It must be explained to the farmers that once a seedborne disease appears in a crop, nothing can be done to control it. The farmers must treat their seeds.

Availability of pesticides

One of the problems the farmers are faced with is availability of good-quality genuine pesticides. It cannot be denied that there is rampant adulteration and production of sub-standard pesticides. Obviously, such pesticides are not effective. In a situation like this, the farmers tend to lose faith in the recommendations of the scientists, such situation has to be guarded against so that the farmers may take the full benefits of the recommended plant protection measures failing which agricultural production is bound to be adversely affected.

It is ridiculous to find that pesticide doses are invariably recommended to the farmers in grams, cubic centimetres, etc. What is desired is that the recommendations are always expressed in terms of locally used weights and measures like tea spoon, container lids, etc.

Concentration of spray solution

It is again a matter of common observation that the concentration of any spray solution is expressed in per centage. This also creates difficulty for farmers because it involves some calculation the farmers in general are not good at. In the event of wrong calculation, the concentration of solution will not give desired result. It is, therefore, important that instead of indicating the concentration of spray solution in per centage, the exact qantities of a particular pesticide and water required per unit of land are clearly mentioned.

Handling of plant protection appliances:

Proper handling and care of plant protection appliances necessitates some amount of skill-oriented training to the farmers and actual users of these appliances. As regards care of plant protection appliances, the farmers should made it a point to throughly clean the same immediately after use every time.

One serious problem the farmers face is repair of plant portection appliances. Here again, they need proper guidance. □

Indian economy in era of planning

(*Continued from page* 10)

processing. Hence much of the export sector operates on the basis of subsidies and incentives. As a proportion of India's national income, exports varied from 5 to 7 per cent. The balance of trade deficit rose from Rs. 603 crore in 1665-66 to over Rs. 5800 crore by 1981-82.

The country followed the 'growth orientation strategy' assuming erroneously that economic growth could bring about increasing employment opportunities and a more equitable distribution of income. Emphasis was placed on heavy and capital goods industries to achieve a higher growth rate. Indian planners adopted technology favouring large scale rather than small scale industries. In a capital scarce and labour abundant economy, such technology should have been preferred which gives higher values of net output and employment per unit of scarce input, viz. capital. A careful choice of appropriate technology would have led to higher growth rates, and employment.

It may be said that while structural change of the economy is a necessity, its introduction would have to be gradual to minimise deleterious short term effects. Industry should be given a breathing space in which controls over operations and investment decisions are removed, and its reorganised production processes and scale of operation to achieve competitive efficiency. At the policy level, a movement towards greater liberalisation is necessary so that there is a commitment to restructure the economy as rapidly as is practicable. □

Whither cooperative credit movement?

G. Savaraiah

The cooperative credit movement, which has taken deep roots in the countryside, needs to be protected against many pitfalls including poor recovery of loans, low operational efficiency, increasing political interference and rise of vested interests. The voluntary and democratic character of the movement must be encouraged and strengthened to enable it to reach the last man, says the author.

COOPERATIVE MOVEMENT in the country started mainly for the promotion of thrift, self-help and mutual aid among the people so as to bring about improvement in agriculture and industry, better methods of production, better business and better living. Particularly, the cooperatives help the farmers by providing them required credit and agricultural requisites and marketing their agricultural produce.

Awide base

The cooperative movement has grown into a massive one, touching all spheres of activity and permeating all walks of life. It touches 98 per cent of the villages, and 50 per cent of the Indian families, covers not less than 80 million people as members and has an annual turnover of Rs. 15,000 crores. The cooperative credit structure which made remarkable progress occupies a pivotal place. There are about 95 thousands of Primary Agricultural Credit Societies at the base level with 357 District Cooperative Banks and 27 State Cooperative Banks at apex level, catering to the short term and medium-term credit needs of the agriculturists. Besides, there are 19 Central Land Development Banks with 890 Primary Land Banks supplying long-term credit.

Our's is a predominantly agricultural economy, where about 70 per cent of the population depend on agriculture. The aricultural development programmes such as intensive agricultural programmes, intensive cropping operations, adoption of high yielding variety of seeds and modernization of technology have given rise to demand for credit. The cooperative institutions provide cheap credit for agricultural development. The cooperative credit for agriculture and allied activities occupy a predominant position in the movement to fulfil the economic needs of nearly 76 per cent of the rural population in villages.

Credit delivery system

Improvements in agricultural productivity and income of the farmers and promotion of other subsidiary and non-farming activities largely depends on the credit delivery system at the base level. In view of this, the function of PACS assume great importance from the point of sound working of the entire cooperative credit system and for successful implementation of the various rural development programmes.

The Reserve Bank of India envisaged the reorganization programme with a view to making the sound functioning of primary cooperative societies in 1976. The reorganization programme was completed in most of the states except 3 states (Jammu & Kashmir, Gujarat and Maharashtra). The total number of societies were reduced to 94,010 by either amalgamating or liquidating the existing societies through adopting the reorganization programme during 1980-81. Out of the total societies in that period, 58,056 were considered as viable, 43,239 were working at profit while only 66,526 PACS were managed by full-time paid secretaries. The membership of the PACS has increased by 26.3 million from 1970-71 to 1980-81, accounting for 85 per cent growth during the same period.

Working capital

Every credit institution or credit society needs working capital for its smooth functioning. The working capital of PACS consists of its own funds, deposits and borrowings. The owned funds have risen by Rs. 110 crores from 1978-79 to 1980-81. The deposit mobilization is one of the objectives of the cooperative societies. The deposits of PACS have increased from Rs. 69.46 crores in 1970-71 to Rs. 226 crores in 1980-81, registering an increase of 283 per cent.

Borrowing of the PACS constitute a critical component of the working capital. The borrowed amount reached a total sum of Rs. 2,310 crores in 1980-81 while it was only Rs. 675 crores in 1970-71.

Loaning operations

The loaning operations of the societies especially the disbursement of loans and advances, exhibit an impressive record. The total loans and advances made by PACS increased from Rs. 577.8 crores in 1970-71 to Rs. 1,656 crores in 1980-81, showing an increase of about 187 per cent. The total loans issued for agricultural purposes accounted for 92 per cent in 1979-80 as against 95 per cent in 1978-79. Though the loans and advances have progressively increased, the outstanding loans and advances also increased by Rs. 1,332 crores between 1974-75 and 1980-81.

An evaluation of the Primary Agricultural Credit Societies discloses that in spite of remarkable progress in distribution of credit, they are lagging behind in certain important respects which require immediate action to strengthen them. Among these, the following important problems can be noticed :

Low operational efficiency

Seventy-one per cent of the societies have full-time paid secretaries who in most cases, feel satisfied by mere preparation of credit limit statements in a routine way.

They also fail to maintain records or monthly progress reports of their respective societies. The non-credit business or services like marketing services are not properly conducted by the President who treats this sort of work as their own business and never show any profit by manipulating accounts. There must be a vigilance and supervision on the societies' activities from the DCCB.

Poor recoveries

The recovery performance of societies showed a deteriorating trend between 1970-71 and 1980-81. It is evident from the fact that the mounting overdues increased by Rs. 767.6 crores between 1970-71 and 1980-81. The percentage of overdues to the outstanding loans accounted for 43.5 in 1980-81 as against 45.9 in 1979-80.

The percentage of overdues to the outstandings accounted for 43.5 in 1980-81. The overdues may be due to natural calamities, absence of support prices, wilful non-payment, anticipation of writing off loans, inadequate supervision, etc. Careful assessment of credit worthiness of members, prevention of overborrowings, careful verification of application for loans and proper supervision for repayment are necessary to arrest the accumulation of overdues. The wilful defaulters are more or less big farmers.

We have multi-party political system where all parties try influence and have a held over cooperatives. The Primary Cooperative Societies in the villages have become the political centres. If the state increasingly encroaches upon the rights and functions of cooperative societies, the voluntary and democratic character of the movement is likely to be lost. The cooperative credit movement must be independent of Government control and interference. Though the board of directors of the society have different political affiliations, they must scrupulously guard the independent character of the society.

Growing vested interests

The vested interests operate largely in cooperatives especially at the primary level. These vested interests ultimately weaken the cooperative movement in general and cooperative credit structure in particular Strong steps must be taken to rid the cooperative movement from the stranglehold of vested interests What is more they use it as a mechanism to extend their influence to the areas outside the cooperative movement. □

(*Continued from page No. 26*)

the process of econmic development. Unless adequate supplies of foodgrains are ensured, development with price stability can not be achieved. This can be done through drawing down of the stocks of foodgrains The Table 2 also clearly indicates the short run instability of real income and sectoral output which shows the inverse relationship between them on the one hand and the price level on the other.

Relative prices, terms of trade, current account balances and inflationary tendencies can also be studied which also have a very important role in determining the rate of inflation.

Table 3: Relative prices, Terms of Trade, Current Account Balance and Inflation

(Annual changes percent)

Year	Relative Prices	Terms of trade	Current Account Balance (Rs. crores)	Inflation
1	2	3	4	5
1970-71	..	.	—47 .8	
1971-72	8.3	9.4	—575.6	8 2
1972-73	—1.3	7.0	—389.1	12 3
1973-74	10.3	—14.5	—455.0	21.8
1974-75	0 9	—27.4	—346 6	10.1
1975-76	—7.9	—20.1	—56.3	8.5
1976-77	—1 5	8.6	1145.5	12.0
1977-78	7.9	25.0	1319 9	0 3
1978-79	—1 8	—5.3	—244.8	4 6
1979-80	—6.2	—26.6	—765.9	22 5
1980-81	—8.8	13.6	—2218.6	16.7
1981-82	8 1	N.A.	—2317.9	2 4
1982-83	[illegible]	N.A.	N.A.	6 2
1983-84	—4 9	N.A.	N.A.	10 7

Source: Economic Survey 1983-84 Govt. of India.

Composition of manufacturing output and the relative prices show that there is inverse relationship between these two variables and terms of trade moving against agriculture have inflationary impact in the country.

Last but not the least, the foregin trade variables and inflation show that dis-inflationary effect of deficit was emerged by the inflationary impact of worsening terms of trade. Oil price hikes by OPEC were one of the factors most responsible for adverse terms of trade in Indian economy.

Thus the monetary and fiscal factors, institutional factors and structural changes continue to be explanatory determinants in recent inflationary trends gaining ground in a developing economy like ours which is a matter of cocern to all if we want to accelerate the rate of economic growth with stability and social justice.

A Serialisation

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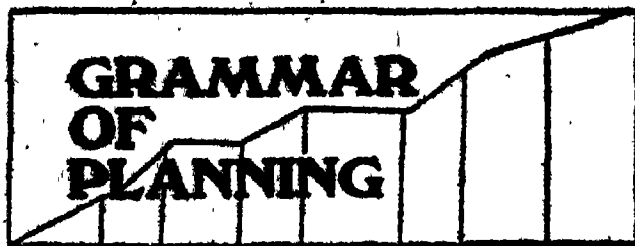
P. R. Dubhashi

The planning typology

After explaining the 'Rationale of planning' (Yojana June 1-15 issue), the author here discusses the planning typology, i.e., the distinguishing features of various types of planning—comprehensive or partial planning; planning by compulsion or by inducement; totalitarian or democratic planning; sectoral or spatial planning; physical or financial planning; perspective or long range planning, and short range or annual planning.

WHILE ANALYSING the concept of planning, we have already identified three principal types of planning, namely, planning in a market economy as in the western countries, planning for the socialistic economy as in Soviet Russia and other eastern European countries, and planning in mixed economies such as do exist in a number of developing countries like India.

But the planning systems have been distinguished in many other ways as well. Thus, there could be comprehensive planning or partial planning; indicative planning or imperative planning; planning by compulsion or planning by inducement; totalitarian planning or democratic planning; sectoral planning and spatial planning; physical planning or financial planning; perspective planning or long range planning; short range planning or annual planning.

Comprehensive planning

Comprehensive planning connotes planning for the totality of the economy. It takes into account the aggregate resources available within the economy and aggregate targets to be reached by the economy as a whole. In socialistic economies where all except the most minor means of production are socially owned, planning of necessity has to be comprehensive. On the other hand, where, as in the western economies, planning is used as a countervailing instrument or an instrument for correcting deficiencies in economic system, planning tends to be confined only to the planning of public investments, i.e., programme financed out of the budgeted resources or resources available with the public institutions. Admittedly, public investments are intended to influence the entire economy in a direct or indirect manner. However, planning as such is confined only to public investment while its consequences on the economy as a whole are a matter to be taken note of in national income accounting and statistical analysis. In any case, as a result of the influence of Keynesian analysis, the economic data in most of the advanced countries are being exhibited in aggregate terms of income, output and employment.

Partial planning

In many underdeveloped countries, the economy is now conceptually divided between the public sector and the private sector. In the context of such a distinction, partial planning could be identified as the planning of the public sector. What constitutes the public sector would, of course, depend on the economic policy of the country regarding the participation of the state in the economic activity. In most countries, it would now include infrastructure activities like transport, communication, electrification, irrigation, education, health, and some amount of social welfare. Depending on the policies, regarding nationalisation, it could also include banking, insurance, public utilities, steam, coal, and other basic industries.

While distinction between comprehensive planning and partial planning is made from the point of view of the scope and substance of planning, distinction between imperative planning and indicative planning, planning by compulsion or planning by inducement, is related to the methodology of planning. Indicative planning is a system in which the plan lays down the general framework of goals and targets whose fulfilment is left to the various participating

economic institutions. Imperative planning, on the other hand, is a system in which the fulfilment of plans is not left to the spontaneous efforts of the participating economic agencies and institutions, but is brought about through various instruments of control and devices of regulation imposed by the state. The distinction is explained by W. Arthur Lewis as follows :

> The distinction between an 'indicative' and 'controlling' plan is important. The (imperative) plans made by Communist countries are documents of authorization; they tell each industrial unit what it must produce and how much it may invest. A Development Plan (of an indicative type), on the other hand, authorises nothing. Even public expenditure is authorised not by the plan but only by the Annual Budget passed by Parliament.

Imperative planning

Bauchet seems to identify imperative planning with comprehensive planning.

> An imperative plan not only covers every branch of activity but embraces many aspects of economic life including volume of output, prices, localisation of industries and employment. In extreme cases, a nation may be said to behave like a single firm with a number of factories to manage. It tends to determine final demand, consumption and investment in the light of production targets arranged in order of priority rather than take into account the spontaneous behaviour of agents. It relies for its implementation on orders. It is controlled by the Central Planning Bureau, the financial organisations and above all by the political authority.

Indicative planning

France is often mentioned as a country with a system of indicative planning. It is true that the French system seems to build the conformity of the various economic institutions to the fulfilment of planned targets by inviting their participation in the process of plan formulations. But it would be wrong to imagine that France abjures resort to regulatory devices altogether. Physical controls or fiscal regulations certainly do form part of the machinery of planning even in France. There could be no planning in a completely indicative sense, i.e., in the sense that goals and programmes are simply indicated without any idea of fulfilling them. That would be the very definition of *laissez faire*. However, there is no doubt that indicative planning gives far greater scope to the freedom of action in the economic system as compared with imperative planning which is often associated with planning in the socialist or totalitarian countries. Stalin said : "Our plans are instructions"; in other words goals and targets of planning are commands which have to be obeyed and carried out by managers in charge of various units in the economic system. Sanctions and incentives are provided in order to ensure that the targets of planning are fulfilled. However, even in USSR there is nowadays an increasing recourse to market mechanism and financial incentives; competition is introduced and profit making capability invoked. As compared with comprehensive and imperative planning, partial and indicative planning has the advantage of being selectively concentrated on the essentials of economic life.

Planning by compulsion

The distinction between planning by compulsion and planning by inducement turns on the various techniques used to ensure fulfilment of plan targets. Thus, planning by compulsion would include a whole battery of physical controls like allocation of raw materials and intermediate products to various production units in industry and agriculture, rationing of consumer goods, quotas of foreign exchange, permits and licences for setting up industries, etc. Planning by inducement, on the other hand, is a system in which there is a resort to various fiscal and monetary devices by the planning or central governmental authorities—devices like taxations and subsidies, manipulation of prices and tariff, rates of interests including the bank rate, open market operations, floatation of loans and debentures, etc. An economist has described planning by compulsion as planning by biting and planning by inducement as planning by barking.

Totalitarian and democratic planning

A distinction has also sometimes been made between totalitarian planning and democratic planning. Totalitarian planning is described as one where the almighty state or the planning authority imposes a pervading discipline of planning. Workers, managers, consumers, farmers, indeed people at large have little or no choice, no freedom in deviating in any manner from the prescribed plan. On the other hand, democratic planning is described as a planning process in which people participate in both formulation and implementation of plans. It is sometimes pointed out that planning by definition requires replacement of people's choice by the planners' choice. In other words, planning and democracy are inherently incompatible with each other. In fact, Prof. Hayek has described planning as a road to serfdom. Prof. Schumpeter has also pointed out this as a major danger in socialism. All powers of economic decision-making would be concentrated in the hands of planners; gradually but inevitably this would mean that all important decisions not only in economic but in other fields would tend to be concentrated in the hands of the ruling authorities. Planning would thus inevitably degenerate into bureaucratic tyranny. Indeed, democracy as a political system cannot survive too long in an economic system managed through comprehensive totalitarian planning. On the other hand, it is argued that planning and democracy far from being incompatible with each other are indeed

complementary. Plans would succeed only to the extent they evoke voluntary support of the people and only democracy can inspire popular support to planning. To quote Barbara Wootton : "It is the detail of planning and detailed execution of the plans that the ordinary citizen has most of real value to contribute." The tyranny of planning, she suggests, could be effectively avoided if "every incursion of government into economic planning is accompanied by creation of small local organs of citizens to co-operate in the execution of centralised plans. The last and greatest defence freedom under planning lies in the quality and attitude of the people...... It is the citizens of a well planned society who are least likely themselves to fall victim to the dangers of planning and vice versa".

Centralised and decentralised planning

Distinction between centralised planning and decentralised planning seems to be a way of summing up the distinctions between comprehensive, imperative, totalitarian planning based on a set of physical compulsions on one side and partial, indicative, democratic planning based on the operation of the market mechanism on the other. This grouping of kindred types of planning may not always be accepted. It has already been pointed out earlier how some economists have maintained that planning even a socialist economy may be based on the use of price-cost incentives in the style of the market economy. On the other hand, planning in the western economies seems to be based on the premise that planning need not necessarily mean centralised ownership of means of production by government. However, there is no gainsaying the fact that there is the tendency of state ownership of economic activity to grow with planning. For effective planning, "the range of authority tends to grow wider and wider. At every level, the price of efficiency is centralisation and continuing widening gap between government at the Centre and the governed at the circumference".

Sectoral and spatial planning

A distinction is made between sectoral planning and spatial planning. Planning cannot stop at the level of the aggregates like aggregate of output, income or employment. Traditionally, plans are broken up into sectors—primary, secondary and tertiary. The primary sector covers agricultural and allied activities like forestry, fishery and mining. The secondary sector covers manufacturing while the tertiary sector covers commerce, trade, transport, banking, insurance, etc. Sub-plans for sectors become constituent units or components of the plan as a whole. However, the growth of regional sciences has brought into focus more and more the concept of area development, i.e. development plans for each of the homogeneous units in which the country is demarcated. Such regions are sometimes called 'planning regions'. Spatial planning is helpful in geographic dispersal of the efforts and fruits of planning in a scientific manner. It is now more and more accepted that considerations such as full and integrated development of resources, social justice based on a fair dispersal of plan activity and advantages of optimum location can be achieved if, in addition to sectoral planning, attention is also paid to spatial plans.

A continuous process

Planning is a continuous process. Development of natural resources or goals of planning, such as substantial improvement in levels of living or development of backward areas, can only be accomplished over a long period of time—say of two to three decades. At the same time, as Keynes said, in the long run we are all dead. We have, therefore, to grapple with the current situation in which we find ourselves and work out and implement concrete programmes of action. A programme of action, if prepared several years in advance, is likely to go out of date It is, therefore, necessary to prepare perspective plans giving the long range trends and directions as well as intermediate plans say for a period of five years in order to provide a coherent set of programmes on which attention can be concentrated, and annual plans which provide the operational plans for the administrative machinery. The annual plans are integrated with the annual budgets. All these three are necessary in order to provide continuity of planning, for linking up past achievements with present activities and future directions.

Rolling plan

The concept of rolling plan is also evolved. A five year plan is rolled on from year to year. At the end of the first year's operation, it is further revised and integrated with one more year's plan, thus deleting the year elapsed and suffixing one more year to the remaining four years of plan.

Physical and financial planning

Finally, a distinction is made between the physical plan and the financial plan. In the ultimate analysis, a plan has to be physical indicating the increased production of various goods and services like food, sugar, milk or fruits or goods of social consumption, like drinking water wells, schools and dispensaries or durable consumer goods, like houses or basic producer goods, like steel, cement or fertiliser. The resources are also physical, like manpower, and minerals, etc. But in our monetised economies the plans have to be cast in monetary terms. The resources have to be raised in financial terms and the national income or standard of living has also to be expressed in monetary terms. However, planners can suffer from the money illusion; increase in national income in purely financial terms may be completely illusory in an economy which is under the grip of galloping inflation. Indeed, planners have to see that the ties between physical and financial planning are not snapped by phenomenal rise in prices which can cut at the very root of the planning process.

Different typologies of planning distinguished above arise out of different ways of looking at the

system of planned economy. A planned economy combines with it different concepts of planning connected with each other. Thus, comprehensive, imperative totalitarian, physical planning based on compulsory directions tend to go together and are characteristic of centralised planning in a socialistic economy. Similarly, selective, indicative, democratic, mainly financial planning through fiscal measures are characteristic of planning in market-oriented western economies. However, these should not be considered entirely exclusive of each other. Socialist planning in recent years, even in countries like USSR, has tried to make use of the market mechanism along with state ownership of key industries, and physical means of control and constraints over the private enterprise have been reported to by the liberal planned economies. This is referred to as convergence between different economic systems. Characteristic of the present time, this convergence is necessitated by the dictates of modern technology.

(Next issue : The sectoral planning)

A cooperative proves its worth

Archna Sood

Success does not come easily to a cooperative. It must put in its very best to prove its worth. The Oilseeds Cooperative, Shree Rajkot Ladhika Sahkari Kharid Vechan Sangh Ltd. Gujarat, has worked hard of the first year's operation, it is further revised and national award for export of de oiled cake.

This cooperative's Solvent Extraction Plant processed 21,230 tonnes of expeller cake and produced 1,9574 tonnes of de oiled cake in 1982-83, achieving a capacity utilisation of 106 per cent.

The Sangh is not only processing groundnut and cotton, but also is able to pay the farmer members a better price than the average market price. It has also diversified to manufacturing Hand Picked and Selected (H.P.S.) Groundnut and is exporting it through the Nafed. Its other services include distribution of fertilisers, pesticides improved seeds and other agro inputs. It is distributing cement as well. Recently the Sangh has also started distribution of tea to the member-societies.

Started with a small share capital of Rs. 15,000 in 1957, the Sangh had a share capital of Rs. 10,32,260 in 1983 and its total reserve funds stood at Rs. 1,45,71,064. Having 43 cooperative societies affiliated to it the Sangh has 90 individual members. In addition, it has 129 societies and 5257 individuals as nominal members.

This cooperative has diversified its activities from distribution of farm inputs to providing storage facilities and establishment of a ginning factory, an oil complex including a refinery and a solvent extraction plant. The Sangh conducts its sales through its sales department at Sadgurunagar, Rajkot and through its shop in [illegible] marketing yard of Rajkot. The processing department is located at Kasturba Dham in Rajkot village. The oil mill processed 12,400 tonnes of groundnut in 1983 producing 4,506 tonnes of oil. The refinery unit of this cooperative oil complex processed 1839 tonnes of raw-oil producing 1,659 tonnes of refined oil.

The Sangh works on strictly cooperative lines. passing on all the benefits, accruing out of various business operations to the grower-members. The members have the owner rights starting from the raw-material to processed goods and by-products. To preserve groundnut and store it, the Sangh has set up one mechanised silo godown which is the first of its kind in Asia. It can store 10,000 tonnes of groundnut. There are 13 other godowns in the factory with a total storage capacity of 11,980 tonnes. To store edible oils, the Sangh has provision of 16 storage tanks with a total capacity of 5,900 tonnes of oil. Moreover, the Sangh has built 17 godowns for storing fertilisers and other agro-inputs.

The Sangh sells the groundnut oil and de oiled cake in tins as well loose. If any individual producer or a member cooperative society, who have deposited their ground nut for processing, desires to take away the oil and oil cake produced they can do so after paying the agreed crushing charges to the oil mill The Sangh conducts all the processing activities of the oil mill and the solvent extraction plant on behalf of its farmer members.

Handloom Sector

The handloom sector which produced 3,30 crores metres of cloth in 1982-83, hopes to produce 410 crore metres of cloth in 1983-84. Handloom sector provides employment to one crore people and that next to agriculture, it is the biggest employer in the country. Production of janatha cloth touched 34 crore metres in 1982-83 and that it will touch 35 crore metres in 1983-84. Value of handloom exports rose from Rs. 25.61 crores in 1970-71 to Rs. 331 crores in 1982-83 and is expected to go upto Rs. 481 crores in 1983-84. Constant research on design and product development is being carried out by 24 Weavers' Service Centres and three Institutes of Handloom Technology, established in various parts of the country.

Some facts about Rajasthan Canal

ADDITIONAL irrigation capacity generated by the Rajasthan Canal System will benefit 37 lakh acres of land.

Additional foodgrains and cash crops to the tune of 37 lakh tonnes will be produced.

The total length of the canals in this project is 9425 kms which is more than the length and breadth of the country added together.

The number of bricks used for the lining and other construction work for the canal system comes to about 340 crores and these bricks will be enough to tie an eight metre broad band on the equator.

Some 3900 lakh cubic metres of earth will be dug out to make the canal system complete which would be enough to construct a pyramid as high as Mount Everest.

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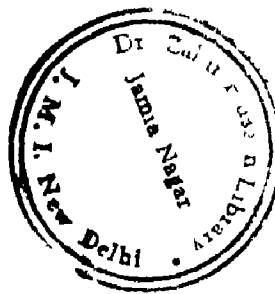
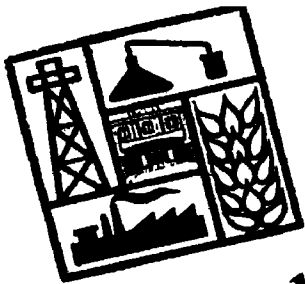

5.5 per cent growth in industrial production

THE INDUSTRIAL PRODUCTION in the country during 1983-84 has recorded a growth of 5.5 per cent upto February 1984. This performance is significant as compared to 3.9 per cent during 1982-83.

Another tangible evidence of the revival of the industrial economy is that during the month of December 1983 the industrial production increased by 5.2 per cent over the corresponding month in 1982; in January 1984, it increased by 8.8 per cent and in February 1984, by 11.3 per cent over the corresponding months of 1983.

The infrastructure sector has also shown a remarkable growth during the year. The infrastructure industries, namely, electricity, coal, saleable steel, crude petroleum, petroleum refinery products and cement registered a growth of 1.7 per cent during April-June 1983 over the corresponding period of 1982. This increased to 5 per cent in the quarter July-September 1983; to 8.8 per cent in the quarter October-December 1983 and to 11.8 per cent in the quarter January-March 1984 over the corresponding periods of the previous year.

The public sector undertakings under the Ministry of Industry achieved a production level of Rs. 2760 crores during 1983-84 which was 14.5 per cent higher than the production level of the corresponding period of 1982-83.

The small scale industry during 1983-84 achieved an overall growth of about nine per cent in production over that of the previous year. The number of items reserved for exclusive development in the small scale sector increased from 837 in the previous year to 872 in 1983-84.

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A recipe for better irrigation

NEXT ISSUE

A focus on public sector

Land for Tamenglong peasants

EVERY HOUSEHOLD, dependant solely on agriculture in the Tamenglong district of Manipur, will soon have one hectare of land on an average to cultivate. This has become possible because of the identification of about 39,500 hectares of potentially terraceable land out of which 8,000 hectares are arable.

It is estimated that the district will produce 3,700 tonnes of rice this year. According to a study, 16,700 hectares of land will have to be brought under rice crop in 1986 to meet the internal consumption.

With nearly 95 per cent of population totally dependant on agriculture, the government is paying special attention to improve their lot by giving mini-kits for pulses cultivation during rabi and kharif seasons. Over 250 quintals of wheat, 10.6 quintals of maize and 95.5 quintals of soyabean seeds were distributed to the farmers in the last two sowing seasons. They were also provided with a large quantity of pesticides and fertilizers.

The district has 12 high schools, 33 middle schools and 181 primary schools spread over 226 villages and a couple of towns. Some 140 villages in the district have been identified as problem villages. Concerted efforts are being made to uplift these villages economically under the new 20-Point Programme.

Six Primary Health Sub-centres have recently been opened in the Tamenglong district.

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For new subscriptions, renewals, enquiries please contact : The Business Manager, Publications Division, Patiala House, New Delhi-110001.

Our Contributors

C. H. Hanumantha Rao, Member, Planning Commission, New Delhi; Dr. S. K. Pachauri,—Director, Ministry of Home Affairs, New Delhi; Ms. Sreelekha Basu—Director, Central Water Commission, New Delhi; Vasant Sathe—Minister for Chemicals and Fertilizers, New Delhi; Ms. Neela Mukherjee—Asstt. Professor, Netaji Institute for Asian Studies, Calcutta; Usha Patel and Amrit Patel—Freelance writers, Bombay; Dr. Ishwar Prakash—Professor, Central Arid Zone Research Institute, Jodhpur (Rajasthan), and P. R. Dubhashi—Director, Indian Institute of Public Administration, New Delhi.

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Planning for removal of poverty

C. H. Hanumantha Rao

The objective of removal of poverty needs to be sufficiently integrated with the production or growth strategy in our plans. The existing planning methodology does take into account the demand for various wage goods corresponding to the magnitude of reduction of poverty contemplated. However, our plan modelling has to become more sophisticated to incorporate choice of techniques at the disaggregated levels, locational choices, patterns of regional development, etc., so that our exercises yield solutions regarding sectoral investments and income generation for various groups or classes of people, says the author.

FOLLOWING THE PIONEERING work done by Professors V. M. Dandekar and N. Rath on poverty in India in the early seventies considerable amount of work has been done on the estimation of the number of people below the poverty line at the all-India level as well as at the State, regional and even district levels. This estimational work and the debate associated with such work has been very useful and stimulating. I always felt that we as economists were not paying enough attention to serious analysis of the factors explaining poverty in India across the regions and over a period of time. In the recent period, however, some such analyses have sprung up. Notable among them are works from Montek Ahluwalia, Dharm Narain, and Pranab Bardhan. The International Food Policy Research Institute has made a major effort by bringing together such scholarly works as a volume in memory of late Dr. Dharm Narain. Such studies which are of comparatively recent origin, need to be pursued further to get an indepth understanding at a disaggregated level not only of the factors accounting for differences in poverty but more importantly to identify the processes associated with a reduction in poverty.

Based on an address delivered recently at the Annual Conference of Andhra Pradesh Economic Association, Warangal. The views expressed herein are that of the author and not of the Planning Commission.

Variations in poverty

The available studies are by no means unanimous in their explanations of the incidence of poverty. However, to my mind, three factors emerge which together provide a reasonably good explanation of the variations in poverty. Foremost among them is the institutional factor, by which I mean the extent of ownership of land per household, the distribution of such land-holdings, the incidence of landlessness, the proportion of population suffering from economic and social disabilities, i.e., the proportion of population belonging to scheduled castes and scheduled tribes.

The second is the growth of output per head, especially agricultural output. The regions experiencing a faster rate of output growth have shown a reduction in the proportion of people below the poverty line. This tendency is reinforced where growth has been biased more towards agriculture. Punjab and Haryana are clear illustrations of this experience. It is useful to remember, however, that the agrarian structure of these States is conducive to wider sharing of benefits when compared to many other regions. The growth in agricultural productivity in these western states has attracted migrant labour on a large scale from the poorest regions of our country in the east and contributed to a significant increase in the incomes of these landless poor. There is no doubt, therefore, that a faster rate of output growth

especially when it is biased towards labour-intensive and wage-good sector like agriculture under favourable institutional framework, will have considerable impact in raising incomes of the poor. The demand for labour generated by a fast rate of agricultural growth results in a rise in real wages, so that wage rates are generally found to be positively related with agricultural productivity. However, where agricultural growth itself is slower than the rate of growth of labour force and the pattern of growth is biased against the use of labour, there may not be an appreciable impact on wage rates.

Raising incomes

Prices of wage goods, particularly of foodgrains, is another factor affecting poverty ratio. Dharm Narain has shown that changes in poverty ratio in India in the last two decades are positively related to changes in consumer price index, while growth of output per head has a negative impact on poverty. It is clear from this that agricultural growth induced essentially by the rise in foodgrain prices cannot lead to a reduction in poverty. There has to be greater reliance on public investment in agricultural infrastructure and on cost-reducing technology, if agricultural growth is to result in the rise in the real incomes of the poor.

It is now a well-accepted proposition that growth by itself may not contribute to the reduction of poverty, especially in an institutional framework characterised by sharp inequalities in the ownership of assets and access to resources and technology. It has, therefore, been rightly contended that the strategy for the removal of poverty has to concern more with the institutional changes and other forms of direct attack on poverty such as the individual beneficiary-oriented programmes. Whereas this proposition is sound, we need to ponder as to whether we have been able to exploit fully the potentialities for reducing poverty through the growth of output even as we are continuously trying to refashion our institutional framework.

If you look at the growth and poverty profile across the regions in our country, you will find on the one hand that the benefits of growth have not percolated to the lower levels because of adverse institutional framework, and, on the other, growth itself has been very slow because of adverse institutional framework. To my mind, the latter proposition is true for large parts of the country, especially the eastern belt, including the vast Gangetic plains where a large part of the poverty population of the country lives. The basic fact, therefore, is that growth itself has been slow. The institutional and the infrastructural factors assume significance for stimulating growth itself, and, of course, simultaneously for securing benefits for the poor.

Growth and investment pattern

I would like to emphasise this aspect of growth and pattern of growth through the necessary changes in the institutions and public investments in the basic infrastructure because I believe that in a developing economy like ours, growth through modernisation has to be a major source for reduction of poverty. Here, the pattern of investment and pattern of growth or content of growth are extremely important. To put it plainly, the objective of removal of poverty needs to be sufficiently integrated with the production or growth strategy in our Plans. The existing planning methodology does take into account the demand for various wage goods corresponding to the magnitude of reduction of poverty contemplated. But our Plan modelling has to become more sophisticated to incorporate choice of techniques at the disaggregated levels, locational choices, patterns of regional development, etc., so that our exercises yield solutions regarding the sectoral investments as well as the income generation for various groups or classes of people. This is a difficult and complicated task with its enormous demands on data base as well as modelling skills. Even if this work becomes feasible, the story does not end. The whole exercise needs to be translated not only into concrete programmes but also into a policy framework to influence the production processes.

Correlation between growth and poverty

Let me try to illustrate the problem by discussing agricultural growth in a regional framework as nearly 80 per cent of our poor still live in rural areas, most of whom are directly or indirectly dependent on agriculture. Looking at the regional profile of growth and incidence of poverty, we can group the country into four broad categories.

The four Western States of the country, namely, Punjab, Haryana, Gujarat and Maharashtra, present the picture of high growth and low poverty, with a difference that the incidence of poverty is even lower in Punjab and Haryana because of high agricultural growth in a perhaps more egalitarian institutional framework. The other extreme is represented by States in the Central and Eastern plains where growth has been slow and the incidence of poverty high. The correlation between slow growth and high poverty should be noted. The four Southern States occupy a middle position. The hill States in the north and north-east are a category by itself, where the definition of poverty applicable to the plains may not be quite relevant. There, the institutional framework is vastly different from that obtaining in any of the other three categories. The problem in this Himalayan region is essentially of infrastructural development and integration with the rest of the economy.

A wayout

I would like to focus on the States in the eastern Gangetic plains. Here, the gap between the potential agricultural output even with the known technology, on the one hand, and the actual level of output, on the other, is perhaps the highest in the country. This potential can be tapped mainly through the development of infrastructure, both physical and institutional, requiring large investments as well as refashioning of institutions. A major developmental

thrust by way of irrigation development, drainage, extension of new technology is called for.

Simultaneously, land reform in certain regions, involving security of tenure to tenants, as well as redistribution of land, are necessary. Consolidation of existing holdings, which are highly fragmented, seems indispensable to stimulate investment in the indivisible equipment like pumpsets. This consolidation of holdings needs to be carried at two levels. One is to bring the fragmented pieces of each individual holding together. So far, the consolidation of holdings has been concerned with this aspect only. But in the context of modernization of agriculture and the objective of strengthening the small farm economy, it would be necessary to consolidate holdings in such a way that as many small and marginal farmers as possible are brought together into viable blocks of land so that public investment in the exploitation of underground water can be channelled to their advantage and their group power is strengthened with a view to improving their know-how, capabilities and bargaining power.

Small-farm sector

I am emphasising all this to suggest that there is not only a need but a considerable potential for integrating the objective of removal of poverty, with growth. Agriculture offers the greatest scope for such integration. In our disenchantment with growth experience of the Fifties and the Sixties there is a tendency to focus almost entirely on the beneficiary-oriented programmes for the removal of poverty. Such an effort cannot be successful if agricultural growth is slow and the benefits of this growth are cornered by a few. We, therefore, propose to launch a massive programme for the development of small-farm sector throughout the country in the Seventh Five Year Plan period through a comprehensive scheme of consolidation, development of minor irrigation, and by improving the group-effort of small and marginal farmers.

Given the magnitude of landlessness and poverty, I have no illusion whatsoever that agricultural growth by itself, whatever may be its content and pattern, can help to solve the poverty problem. We need, therefore, to simultaneously go ahead with the beneficiary-oriented programmes like Integrated Rural Development Programme, National Rural Employment Programme, and the more recently introduced Rural Landless Employment Guarantee Programme.

This component of our strategy for removal of poverty is not devoid of a theoretical basis. The income elasticity of demand for products like milk, poultry and for a number of other rural crafts, is quite high. With a proper organisation of markets, they offer enormous potential for employment for the poor in the future. Secondly, these activities are not land-intensive and, therefore, typically suit the marginal holdings and the landless.

Even though the capital-output ratios for some of these activities are higher than that for crop production, they are still very much lower than for many of the small-scale industrial enterprises. In many cases, where traditional skills are available and remain underutilised for want of resources, the capital-output ratio turns out to be much lower than even for crop production. These activities, in general, require Government support for resources, training in skills, and marketing. The individual beneficiary-oriented programmes have come to stay but they cannot succeed in the absence of a reasonable rate of growth of agriculture and economic growth in general because the demand for these products is highly income elastic. These programmes are, therefore, highly complementary to growth in general. These programmes themselves are expected to contribute to growth in output of goods and services. Otherwise, they become inflationary, apart from becoming a source of gains for middlemen.

Some suggestions

I will not go into the details of how these programmes need to be strengthened. I would only mention certain broad lines of reform. Firstly, these programmes need to be expanded on a much larger scale during the Seventh Plan period and the banks have to play much greater role not only in providing credit but also in identifying productive activities, providing extension services and conducting evaluations, at least on a pilot basis, so that the experience available from such projects is capable of being replicated by governmental machinery. The nationalised and commercial banks are not mere money-lenders. They need to be active agents in the fulfilment of national objective of removal of poverty in view of their resources, skills and organisational capabilities. They should experiment with such models for the benefit of the poor.

Local institutional involvement

Mere expansion of these programmes is not enough. The chain of intermediaries between the Government and the actual beneficiaries is perhaps the largest in the case of such programmes. The most important task is, therefore, to ensure that the benefits really reach those for whom they are intended. A number of changes in the design may be needed.

Firstly, the allocation of resources for such programmes needs to bear some relationship to the incidence of poverty in different regions of the country. Secondly, in the choice of programmes as well as in their implementation, local institutions have to be involved on an increasing scale with a view to ensuring that the activities chosen are economically viable and are in keeping with factor endowments and the resource-potential of the region concerned. Such an involvement will also help to minimise the leakages. Thirdly, to the extent possible, these activities should be organised on a group or cooperative basis so that the economies of scale inherent in some of these activities are fully realised while, at the

same time group initiative and effort of the poor is promoted. Finally, a major training programme has to be mounted to improve the skills and capabilities of potential beneficiaries.

I now come to some general issues of strategy for the removal of poverty. A major point to note, in this connection, is that the poor are likely to be engaged increasingly in activities the demand for which is highly income elastic and, therefore, one need not be pessimistic about the prospects for income generation for poor so long as the overall economic growth is satisfactory. However, since all these activities are also capital-intensive and skill-intensive, those who have access to resources and technical services may be quick to invest in such ventures. Even now, the Government-sponsored programmes for the poor, such as dairying and poultry, satisfy only a small proportion of the total market for such products, may be sometimes even less than one per cent. The remaining part of the market is still served by prosperous farmers, with investible resources or other entrepreneurs whose effort would be to minimise labour-use and maximise profits. It is, therefore, important that by devising appropriate institutions for public investments as well as through the provision of various technical services on a preferential basis or the poverty sector, an increasing proportion of market for such products is captured by these programmes. The very fact that these activities are less land-using, makes it favourable for the poor But the fact that they are capital-intensive and skill-intensive and possess economies of scale, may favour commercial enterprises of a relatively large scale, and thereby defeat the very objective of making this an instrument for the removal of poverty.

Education and skills

Education and training in skills for the poor has to be a major plank of the anti-poverty strategy. We all know that human capital is becoming a major source of economic growth. The way the benefits are distributed from this growth is determined by the distribution of human capabilities, i.e., education and skills. Although, investment in education and skills is determined by one's wealth position, public intervention in favour of the poor can make a big difference in this regard. The focus of attention in the Seventh Plan period has to be on the provision of education for the poor and training in various useful skills.

In the ultimate analysis, the objective of removal of poverty can be fulfilled in the measure in which the poor themselves become conscious, improve their education and capabilities, become organised and assert themselves. But we know that a large majority of the poor are unorganised and are engaged in activities which are informal and which do not lend themselves easily to organisations into groups. Therefore, public intervention and the strategy for poverty-removal has to be such as to promote group-endeavour. This is essential to realise the economies of scale as well as to improve the bargaining power.

Economists were actively interested in cooperative farming in the Fifties. A large volume of literature cropped up at that stage. Cooperation as a technique was conceived to improve the strength of those who are otherwise weak and scattered. However, experience has shown that cooperative farming as well as other cooperatives for the really weak and the scattered, have not been a success. The success stories in the case of cooperatives, interestingly, relate to those who are already rich and strong individually. The cooperatives have helped them become even stronger. We need to reverse this trend. The situation now is far more favourable for group or cooperative effort on the part of the poor and the weak, as compared to three decades ago.

Power of group endeavour

For one thing, the general level of awareness or consciousness among the poor and even their educational level is much higher now than three decades ago when economists actively debated the subject of cooperatives for the poor. Secondly, purely in economic sense, the indivisibilities to be exploited were very few in traditional activities under traditional technologies. The indivisibility-phenomenon is becoming increasingly important in many of the modern activities and even under traditional activities like agriculture, but with modern practices. The group and cooperative endeavour can offer greater economic returns now than before, partly through better use of modern equipment and technical services but also because of better access to resources and knowledge, and the pressure that one can bring to bear on seats of power through group-endeavour. This is what we call bargaining power. Therefore, we need to experiment with various forms of group-endeavour for the poor which also incidentally reduce risks for the individuals in their economic endeavour. This has to be another major plank of the strategy for the removal of poverty in the period ahead.

All these areas offer interesting and challenging opportunities for economists and social scientists in general, for research and investigation. A decade ago, one used to hear among the corridors of the seats of power—whether political or bureaucratic—that production is the first and foremost thing, and distribution will take care of itself. The situation has radically changed in the course of the last decade. If you discuss with government officials, you find a total change in their approach. The orientation now is towards work for the betterment of the poor.

Studies on land reforms and agrarian change, conducted by scholars like Professor A. M. Khusro, Professor B. Sarveswara Rao, and Professor G. Parthasarthy have inspired many young scholars in the country and helped us to understand the agrarian situation better and to formulate strategies for the removal of poverty. It is also gratifying to note that subjects for research chosen in social science research in general, and in economics, in particular, in various universities have a distinct bias towards problem of the poor. □

A case for decentralisation

Dr. S. K. Pachauri

WHILE DISCUSSING the implementation of special plans for the development of weaker sections the author calls for formation of a strong district planning and implementation body to ensure a proper thrust and direction of development. Clusters and groups of people living below the poverty line should be identified properly. Their comprehensive development may be attempted by not only giving them individual beneficiary oriented schemes but also suitable infrastructure created to help eradicate poverty, he adds.

ERADICATION OF POVERTY and welfare of the people is a major national objective. The welfare concept manifests itself in the Constitution under the Directive Principles of State Policy. The successive Five Year Plans made necessary provisions for achieving this objective.

It was thought in the initial stages of planning that the benefits of development would trickle down to the poorest of poor of society, but somehow this did not happen. Special programmes were designed to bridge this shortfall. The chief amongst these programmes is the Integrated Rural Development Programme. There are other supportive programmes like the National Rural Employment Programme, Drought Prone Areas Programme and the Minimum Needs Programme.

Special plans

It was felt, however, that there were certain sections of the population which require specific and concentrated attention. In order to focus the benefits in an integrated manner programmes for the Scheduled Castes and Scheduled Tribes were also formulated. They are the Special Component Plan (SCP) and the Tribal Sub-Plans. The SCP envisages raising 50 per cent of the SC families above the poverty line during the Sixth Plan period. The Tribal Sub-Plan has a similar object of raising 50 per cent of the ST families above the poverty line. Most of these programmes are directed towards creating social infrastructures and community assets. But some of the programmes are specifically meant for raising the income of the family, namely, Integrated Rural Development Programme.

Since most of the poverty stricken groups are found in the rural areas and their dependence is mainly on agriculture and allied activities the emphasis and thrust is in this direction. The idea is to give them economically viable schemes with the combination of subsidies and bank loans which will enable them to raise above the poverty line. During the Sixth Plan period efforts are continuing on a massive scale and the objectives of the special programmes have also been incorporated in the Prime Minister's revised 20-Point Programme. Constant review and monitoring of these programmes is being taken up and whenever there are any shortfalls, efforts are made to set matters right.

District credit plan

At the District level, however, these special schemes have to be integrated with the State Plan. Even though there are various departmental plans and schemes, it is very often essential to carry out an exercise of dovetailing the departmental schemes with those of the special programmes. This involves an enormous planning task at the District level. As we are aware the District Collector is the king-pin, the Chief Coordinator and implementor of State Government plans and schemes. He has to not only implement the schemes of the State Government but also the special programmes for weaker sections as mentioned earlier. An effort has to be made to decentralise planning functions so that maximum flexibility is available while implementing schemes suiting local conditions.

The first essential point is that the target groups should be correctly and properly identified. Districtwise surveys should be conducted, data processed and benefits should be focussed on those who are genuinely in need of it. Apart from the land holders, there is a large class of agricultural labourers and non-agricul-

tural occupational groups who are also living below the poverty line. It is, therefore, a very big task to assess the size and scope of the problem and ensure that proper assistance reaches the targetted families.

It is necessary to prepare and identify schemes which are bankable. Hence districts credit plans have to be prepared. It has often been felt that the district credit plans are more of a paper exercise. An effort has to be made to ensure that credit reaches the target groups in a timely manner. The banking officials at the field level are very often faced with shortages of staff and sometimes are not able to cope with the burden of work. There is a whole maze of procedural delays like filling up of forms and obtaining no objection certificates from various agencies. All those involve an immense amount of time and cost.

The next problem is who is going to be implementing these programmes. Very often, the bureaucracy at lower levels is not able to cope with the challenge. This is due to ignorance about the importance of the schemes and the lack of proper direction. A committed and trained bureaucracy is an essential pre-requisite for correctly identifying problems and implementing development programmes and schemes successfully. A suitable personnel policy should be designed to meet the requirement of development challenges at the field level.

Disaggregation of targets

The third aspect is concerning a proper disaggregation of targets. Very often, the District heads are not able to communicate their departmental programmes to the blocks in time and the funds are lapsed. Similarly, at lower levels the targets meant for implementation of programmes like SCP and Tribal Sub-Plans are not known to them at the appropriate time. If at all the target is communicated to the lowest levels, there is no sense of urgency to implement these programmes.

Monitoring and implementation

There is a need to have special staff for monitoring and implementing the programmes successfully. The officers these days are over loaded with meetings and visits of VIPs at Districts and block levels. They in turn pass on the work to subordinate levels without understanding the field implications and scope and purpose of the scheme. There is also the problem of political interference at lower levels and this sometimes results in giving a distorted picture. The benefits of these programmes it is felt are not reaching the people who are really needy and deserve them.

It is essential that planning at the District level is made more realistic. District planning should be an integral part of the functions of the District administrative and executive machinery.

One of the chief drawbacks of most of the schemes is that a target has been set, and in their eagerness to achieve the target the quality of implementation is lost sight of. We very often hear of loan camps being held, and it is not unusual to find some cases who are not deserving getting the benefit.

In order to ensure a proper thrust and direction it is suggested that a strong District planning and implementation body is formed with experts from various discipies who are associated with this body. This will enable the planning and implementing agencies to have a better appreciation of the facts and environment around them. It is also essential to ensure peoples' participation in these programmes as we cannot expect all the benefits to come from the Government alone. The peoples' wishes must be ascertained before programme benefit is given to them. It should not appear as though benefits of programmes are imposed on a speechless and helpless minority. An effort should also be made to identify clusters and groups of people living below the poverty line and their comprehensive development should be attempted by not only giving them individual beneficiary oriented schemes but also suitable infrastructures should be created which will help in poverty eradication. □

The Naiks of Bolmane take a turn

THE NAIKS of Bolmane are an interesting people. You have to see them on any festive day when they come out in full colour, with red turbans, striped shawls and neat dhotis, dholaks in hand, singing and dancing in gay abandon. They are a closely knit tribal community working mostly as agricultural labourers, while some of them own the lands they till.

Their village is as far from the mainline as the people are from the mainstream of society. You pass through jungle tracts, across a river and climb your way through the hillside.

As you enter the village, you will chance upon a new tiled house and the owner of this house, a beaming middle-aged man called Manjunath greets you. Manjunath has a tell-tale face.

To the Naik-folk of Bolmane, Manjunath is now a well-to-do man. He has dug a well recently. His daily income today is over Rs. 25. Every day Manjunath takes seven litres of milk from his house to the milk collection centre at Amasebail, 8 km. away. On the way, he also collects 50 more litres of milk from other Naiks in the village and he gets a commission of 40 Paise a litre for delivering this milk to the same collection centre where he sells milk from his own house.

Manjunath today owns two milching cows, and nine ewes and a ram, thanks to the financial assistance he received under the Centrally-sponsored ICDS and DRI schemes, advanced through the Agricultural Development Branch of the nationalised Syndicate Bank at Shankaranarayana. He has grown two cashew and coconut gardens.

There are other Naiks like Manjunath in Bolmane village who have received similar financial assistance. The Bank has disbursed loan assistance amounting to Rs. 5.4 lakhs in the village for developing dairy, forestry, carpentry, retail shops and gobar gas plants.

B. K. Hegde

A recipe for better irrigation

Sreelekha Basu

Underlining the need for improvement in the concepts and definitions of irrigation potential created and its utilisation and adoption of a unified procedure by all states for the collection of irrigation statistics, the authoress says the existing system would not serve any purpose by merely reporting the same figures for capacity created and utilised. She says, "the achievements, so far recorded, need thorough scrutiny and suitable amendments."

SINCE THE INCEPTION of planning, various goals of social and economic developments have been set up and attempts made from time to time, to take stock of how far these goals have been attained, to assess the achievements (and the shortfalls), so that better planning may be made for the desired development of the country. The Revised 20-Point Programme (RTPP), initiated in January, 1982, represents the core of the Sixth Plan, and only an effective implementation of the RTPP will be able to achieve the major social and economic objectives of the Plan. The RTPP has some specific goals in clearly demarcated areas.

Point one in the RTPP puts emphasis on increase in irrigation potential, etc. This objective leads to other related goals in a package such as better and more effective utilisation of the potential created, better water management and distribution, etc. These again lead to higher production through increase in the intensities of irrigation and cropping, changes in the cropping pattern with a bias towards pulses, oil-seeds and other cash crops and to superior food crops, increase in the actual return to the farmers in terms of net farm income, as also generation of more employment, particularly in the rural areas (farm sector).

In this article we examine the inherent difficulties in scheduling and monitoring the benefits of irrigation works in India, so that experts in this field can sort these out for a better performance monitoring of the benefits scheduled.

Unutilised investment

Food grains production achieved a record level during the Fifth Plan period mainly due to the spread of irrigation facilities, which went up from 42 million hectares in 1976-77 to more than 56 million hectares in 1979-80. The Sixth Plan (1980—85) aimed at a five per cent annual growth rate in the value of gross output in the agricultural sector, along with an expected overall growth of 20 per cent in the foodgrains output, during the five year period.

Irrigation potential created till the end of the Fifth Plan period had been 56.50 million hectares—26.50 million hectares by major and medium projects and 30.00 million hectares by minor irrigation—as against an estimated utilisation of 52.32 million hectares (22.32 million hectares from major and medium and 30.00 million hectares from minor irrigation). The targets for the creation of additional irrigation potential during 1980-85 had been 13.74 million hectares and the same for utilisation 13.60 million hectares. Against these, the physical achievements during the first three years (1980—83), were estimated at 6.81 and 6.22 million hectares respectively.

The mid-term appraisal of the Sixth Plan says that "there is likely to be a shortfall of 2.3 million hectares in creation of additional potential, while the shortfall in utilisation achievement is likely to be 1.6 to 2.1 million hectares." The utilisation gap of irrigation potential created till 1983-84, by major and medium irrigation projects has been estimated at 5.0 million hectares, which is more than 16 per cent of the potential so far created. A rough estimate of the cost

Views expressed are of Ms. Basu and not of the Central Water Commission Statistical Directorate.

of creating one hectare of irrigation potential, by major and medium projects, stands at Rs. 10,000 crores (at 1980-81 prices). Thus, by the end of 1983-84, an investment of Rs. 5,000 crores has been lying unutilised.

Advantages of irrigation

There are serious methodological problems involved in arriving at the benefits arising from irrigation projects. Some benefits may accrue at the intermediate phase while most of the benefits|physical achievements would be realised at the completion of the project. Even after the completion of the project various constraints come in the way of better utilisation of the potential created. Some of these are lack of field channels, lack of progress in consolidation of holdings, realignment of field boundaries, land levelling, etc., delay in the enforcement of "warabandi", lack of drainage arrangements, reluctance of farmers in making full use of the available water supply, and the slow pace of diversification in the cropping pattern.

However, creation of irrigation potential and its utilisation is not an end in itself. Irrigation provides water to farmers to increase the productivity of their land. Thus, the ultimate benefits would be in the form of increased crop production through better crop productivity per unit of land under cultivation and higher cropping intensity, increased demand for labour (thereby increasing local employment), increase in the income of the farmers|agricultural workers and other rural population, increase in the State domestic product from agriculture, and an overall betterment in the economic welfare of the people residing around the project area.

In addition to direct production, income and employment benefits, a variety of non-crop-agricultural benefits and non-agricultural benefits also accrue with the spread of irrigation, which stimulates a broad range of economic activities like development of animal husbandry, fisheries, growth of agro-processing industries and services linked with the availability and utilisation of irrigation facilities, and the infrastructure created by the irrigation projects.

Inherent limitations

Quite a few of our existing irrigation system suffer from inherent limitations in their original designs resulting in poor performance. Better management can be ensured by improving the standards of design as also with the help of water management experts. A general complaint has been that a large number of farmers located at lower reaches do not get sufficient irrigation water and have to depend mainly on rainfall. Farmers situated favourably in the canal system (mostly at the head reaches) get abundant supplies and over use it.

India's irrigation projects are usually designed using assumed cropping pattern and water seepage losses. The World Bank has found that the proportion of water diverted from its source which finally reaches the fields (known as the over-all project efficiency), in several Southern Projects, to be about 25 to 30 per cent, while the planning assumptions had been around 60 to 65 per cent. Thus the irrigation potential estimated by various projects, (and the utilisation of the same), are rather on the high side and optimistic, specially in our Southern systems built since early 1950s.

Further, cropping patterns bear little resemblance to those proposed and approved by the Irrigation Departments and the Planning Commission. The farmers at the upper reaches of the systems grow only those crops which pay the most, disregarding the cost involved in the supply of the water, as the water rates are extremely low and create no problems to them. Again, water is not priced on volumetric basis. These encourage the farmers to disregard approved cropping pattern. The regulation of the canal systems for release of water is still on traditional lines and returns from potential created are much lower than those projected.

Reorganisation of water management

The Sixth Plan had stated that, "Inspite of large investment in the irrigation sector and the phenomenal growth of irrigation during the past 30 years, the return from the investment both in terms of yield as well as finance are very disappointing". The Mid-term Appraisal of the Sixth Plan noted that the plan targets for rice, jawar, bajra, maize, pulses etc. would not be realised in full and the short fall would be 3-4 million tonnes for rice, 1-2 million tonnes for other cereals and the same for pulses. Thus the plan investment in our major and medium irrigation projects, which stood at Rs. 5374 crores at the end of our Fifth Plan, together with an estimated outlay of another Rs. 5000 crores during 1980—84, have not produced enough to sustain the major portion of our population, due to lack of proper management of water supply to the 29 million hectares these projects are supposed to irrigate.

A review of our water management procedure has been widely recognised by agricultural scientists and administrators, and doubts have been expressed if any further investment was necessary for the creation of fresh potential by major and medium schemes. It has been suggested that the most important issue which should receive attention now is the reorganisation of our irrigation management set up, specially for major and medium irrigation projects.

It has also been suggested that proper methodology would have to be chalked out to estimate the area actually irrigated and the duration of irrigation. The data thus collected should be processed simultaneously, for a continuous feed back. This would help us in arriving at some standards or norms of how an irrigation system should perform, under specific agro-climatic conditions and under different crops. India is a country of continental diversity and we can not think of a standard set of norms, and these should be developed cropwise and region-wise.

No uniform reporting method

Till now, there is no uniform method of reporting irrigation potential created vis-a-vis its utilisation, by the States. The Committee on Rationalisation of

Statistics and Methods of Assessment of Irrigation Potential and Utilisation (August 1981), had furnished the relevant definitions.* As regards utilisation of potential created the Committee had suggested the use of annual (or seasonal) applications received from concerned parties, furnishing details of the crop to be sown, frequency of water to be supplied, etc. These applications are scrutinised, necessary sanctions made and water released. Verification of the details furnished are carried out by field staff. Relevant statistics on utilisation are then compiled for individual projects, from such applications.

Some States|UTs which do not follow the above practice were asked by the Committee to devise a suitable form of application for water supply and compile necessary utilisation statistics. However, various States had approached the Central Water Commission for further clarifications. It had been suggested that the created irrigation potential would vary from year to year, depending not only on the extent of area covered by the canal system, but also on the actual replenishment of water in the reservoir, and thus potential once created can not remain constant over years. However, it should be noted here that in the project reports, the irrigation potential is estimated as the gross annual potential for irrigation on a project planned, on the basis of 75 per cent success, and the actual irrigation from year to year would have to be reported as the cropping pattern might change over time owing to various factors and the canal system might deteriorate in course of long years of operation.

In our older system, the potential and utilisation used to be reported equal after a time lag of three to five years, once the canal systems started functioning. The Committee had specifically recommended that before an area was included under potential created, it had to be ensured that the water would be available for disbursement and the conveyance system was completed to serve an area of specific size. For data on utilisation, the Committee suggested proper education of the farmers to the modified system of obtaining irrigation water, and suitable training of the field staff of the Irrigation Departments for the collection and compilation of utilisation statistics. No uniform reporting system of potential created vis-a-vis its utilisation has materialised yet, and the figures currently available are assumptions and|or gross averages. Some States are still reporting as the figure for utilisation from a project during a year, the maximum level of irrigation achieved upto that period by that project and the cumulative effect for all projects in the State results in a distorted picture.

A new approach

Some water management scientists suggest that a more realistic description of potential would be the volume of water impounded in the reservoirs and available for irrigation. It is argued that this approach would correctly reflect the irrigation potential created by each project. It is also argued that when irrigation potential and its utilisation are measured in terms of area, the underlying assumption is that each unit of the area is being supplied with same quantity of water, through the supply of water from the head reach down to the lowest (downstream and field channels) approaches would be different, because of different degrees of efficiencies along the course of the outlets. Volumetric measurement of irrigation potential vis-a-vis its utilisation would be more scientific than the existing procedure of recording these in terms of area.

It has been suggested that efforts should be made by Project Authorities and State Irrigation Departments to examine the feasibility of compiling irrigation potential and utilisation statistics in terms of volume of water impounded and released as this would furnish uniform and more authentic data, and also ensure maximum economy thereby increasing the efficiency of the systems. The initial investment for the installation of metres and supervisory staff, however, would be rather high. Efforts may be made to introduce this system in a few promising projects in selected States and then extend the same to other projects. As average holdings in our country are rather small, the volumetric measurement of utilisation may be introduced only in sizeable holdings, specially under a single crops (rice, wheat or sugarcane) and in agricultural cooperatives.

Objectives of irrigation

The benefits of irrigation can be measured in terms of increase in productivity per hectares, change in the cropping pattern with a bias towards high value cash crops or superior food crops (and also pulses etc.), increase in net return to farmers from the above, and increase in rural employment in terms of fuller employment for small and marginal farmers and more mandays of work throughout the year for agricultural labour. Employment would also increase in related activities, (agro-industries, storage, transport, trade, banknig etc.), thereby inducing economic well-being of the command areas and nearby regions. With the existing statistics it would be difficult to quantify all these benefits. Bench-mark surveys of the socio-economic conditions of the people enjoying all the advantages would have to be initiated in different projects|States. These would bring out a broad picture of the agro-based rural people receiving irrigation in their locales, as a result of some irrigation project undertaken by the State.

Distributional aspects of additional farm and non-farm income generated may also be covered by such surveys, with special reference to the change in the consumption pattern of the rural people. Attempts may also be made to quantify the increase in the State domestic product from agriculture, mainly due to the irrigation water supply and other inputs to farmers of all such regions.

It would be interesting to measure how far the benefits generated outweigh the costs of the projects (and related programmes), with the help of benefit-cost analysis. The change in the cropping pattern and in the productivity of the crops raised in irrigated areas may be attempted with the help of special crop cutting

(continued on page 18)

*The definition for potential was subsequently slightly amended keeping in view Planning Commission's circular regarding irrigation outlets, (revised from "40 hectares" to an area of "5 to 8 hectares").

TOWARDS SOCIAL REVOLUTION
a Case for Economic Democracy -
VASANT SATHE

A Serialisation 3

A philosophy of life
Spiritualism and science

YET, ONE ENIGMA which continues to confront human activity is the fact that most of the people (and even those brought up in rational, scientific disciplines) are seen to find solace and mental peace in identifying the supreme power in some form and then constantly worshipping it. It is argued that if even great rationalists and men who have achieved substantial power over material nature are devoted thus, they must have good reason and can serve as examples for others to emulate. This logic seems to prevail, and, in spite of all reasoning, we find the general mass of humanity caught in the vicious circle of blind faith and ignorance from which result feelings like fanaticism and dogmatism.

But even this is easily understandable, because, psychologically, the awareness of the universal perspective, as discussed earlier, enables one not only to have a sense of detachment but also to have a correct approach to harmony. Now, the same awareness is possible when one constantly remembers or concentrates on some symbol through which one identifies higher values. This is what it means to worship. But the moment this symbol and a particular form of worshipping seem to become the only right thing and there springs the desire to impose it on others or to consider others inferior and, thereore, worthy of condemnation, then the conflict starts. In all forms of worship, the basic element is that the worshipper refuses to question himself or to allow others to question him. From such blindness comes intolerance and intolerance is the basis of conflict. Hence, although no one can be against a form of concentration, call it worshipping, as a simple psychological method to seek mental peace, it is necessary to emphasise again that this is also an activity of the mind; the mind should not be put under any constraint to believe any dictum as being the ultimate and the final truth.

In fact, if there is a truth it is that there is no 'the truth.' There are only relative realities according to time, space and matter and the relationship between energy and matter at different times. As under certain circumstances, certain forms emerge and are known to repeatedly take the same form and show the same results, we find a whole system in the universe able to seek harmony through various shapes and forms which are discernible in a similar manner. Hence, although in theory all matter is energy, yet, we do find some compositions of the same energy taking the form of matter in different shapes and being capable of adjustment, such as bricks and houses, glass and glassware, wood and furniture, gas and fire and the larger universe with its space, stars and planets, galaxies, Milky Way, and time. It is this co-relation which is important for human life, and ultimately one comes to finding this co-relation with all energy. So, in essence, knowledge means a constant pursuit with a willingness to question and to seek harmony in the perspective of that knowledge in all activities of human life.

In the ultimate analysis, a human being works within two parameters, both of which are uncertain; namely, the time of birth and the time of death. Although the time is uncertain, there is a certainty, whatever be the longevity, about death. All his inquiry goes on within this life-span and it is now established even genetically that in the process of evolution, a constant improvement of the faculties of the human mind takes place. Although the horizon of man's knowledge of his universal environment will continue to grow, this knowledge will still be like a drop in the ocean as far as the totality is concerned. Even enlightenment through experience of the universal totality of cosmic existence will continue to remain limited and circumscribed by, the faculties of the mind through which alone it can be related to other human beings.

Because the essential character of this universal totality is beyond the concept of the mind, a human being would take the easier recourse to attributing everything to a power called 'god' and relegate to him all residual powers of creation and control over the whole universe. He will thus be able to resolve the conflict and be at peace with himself. But the intelligent mind will always know that this is only self-delusion and an escape from reality. It would seek to decide the realm of man's capacity and work within the aforementioned parameters. An individual would seek harmony not only within himself but with the entire universe without, which includes his fellow human beings and nature. Thus, in essence, he will realise that the most important attitude in life is to work for and seek harmony, and the most important instrument for achieving this, learnt by experience and observation as well as action, is love—love which includes understanding and compassion. If we apply this perspective of the cosmic conscience and the attitude of seeking harmony, most of the problems, both internal to an individual and external to him as a social being, could be solved. I would now propose to apply this test to the problems of a human society taking India as a case study, although it would also be applicable to all other societies with differing situations.

Knowledge, information and faith

There is a clear distinction between information and knowledge. Information only helps to acquire knowledge. That is why computers or even robots can be tremendous storehouses of information, but they will always lack knowledge.

The best thing, therefore, for a human being is to be aware not only of his limitations in the context of the 'unknown', but also of his tremendous capacities as a mortal human being to improve the quality of life for himself and for the entire human family. He has to be aware that the knowledge that he has acquired in the process of the evolution of his mental faculty is capable of reorganising the entire life of human society. Collectively, he is in an even better position to acquire greater knowledge of the world, knowledge which is yet like a drop in the ocean. This awareness of his capacity to be, at the same time, a participant and a perceiver of life will at once give him both humility and the universal perspective of an observer.

A stage in human evolution has arrived when two basic factors have clearly emerged : first, that any inquiry into the 'unknowable' which is beyond the mind's comprehension, even if realised by some other faculty, will always remain an imponderable one and will have to be interpreted only through the mind.

Whatever be the kind of enlightenment, the realisation of the universal energy (called by any name) enables one to acquire a universal perspective of life for achieving the well being of the entire humanity.

More than this, no human being, howsoever enlightened, has been able to achieve.

Secondly, it is now amply clear that human development and the solution to most of the human problems can be achieved through science and technology along with a proper approach for mutual and universal harmony. Even the higher evolution of the human mind towards reaching greater heights to match the requirements of the space age and to acquire greater dimensions in the field of parapsychology or in transcendental faculties can be achieved by the scientific approach.

Let us now discuss the importance of another factor, namely, love, in achieving harmony and happiness.

Love is the capacity to give. It encompasses all noble and good feelings like compassion, kindness, chivalry and charity. The quality of love is universal and is judged by its intensity.

Love is also a desire to be associated with a person, a thing or a concept either physically or mentally. It varies in degree. It takes different forms such as liking, wanting, friendship and loyalty.

Even in love, there can be differences in quality and intensity, although both attributes qualify for the description, love. In case of conflict, one has to choose what one values more at a given time.

For example, take the love of a mother for her son. She has no one else to depend on and she needs him most in her old age. Yet, if he has to leave her for some more important venture dear to his heart, she will not only understand but shall want him to pursue it.

Thus, love has the capacity to sacrifice the lesser for the higher and this is where the question of values comes in.

Knowledge and love together give one a broader perspective. With this perspective, one realises the all-pervasive goodness and beauty present in human life.

It is goodness and beauty which stimulate the desire to live and act in a mortal being who knows that whatever be the span of life, the certainty is that some day he has to discard the body.

The mortal being is so much identified with the body that he does not realise that he is independent of the body. This is because although he knows a lot about his body and mind, he has not yet discovered what is beyond the body and the mind.

Throughout his inquiry of the unknown, man has come to accept an easy alternative. That is, to put his faith in someone, and, like a child sleeping in the secure arms of his mother, he gets over his sense of insecurity.

This is what happens when a person puts his faith and trust in a leader or a guru or a godman. The whole of human life has evolved on the basis of this

phenomenon of faith—because faith begins where reason ends.

Just as this faith puts man's mind at rest, it also makes him mentally blind and he soon becomes a bigoted fanatic refusing to accept that the other person's faith is equally valid.

He starts believing that all other faiths are not only wrong but also harmful. Most of the strife and conflict in human history has been on account of this conflict of faith, which in itself is basically blind.

The need, therefore, is to realise that all faith originates from one common factor, viz., man's ignorance of the unknown and his belief that some particular individual knows about it.

Out of ignorance, powers are attributed to an individual, which, on a little rational scrutiny, would be seen as being baseless. But, like the blind leading the blind, one accepts a beneficial result, attributing it to miracles.

It should be apparent, even at a superficial glance, that all the miracle men apply their powers of performing miracles only to individuals No one has used them to cure patients in hospitals or to prevent the death of innocent children and women in Beirut. They can produce ashes or a few grains of rice but cannot prevent cities from being reduced to ashes nor can they provide food to the starving millions.

And yet, even intelligent persons including politicians, judges and scientists succumb to the guiles of these miracle men or tantriks to achieve mundane gains.

Thus, the universal religion of the modern age should be the religion of scientific humanism. This would not be in conflict with the established value systems of various religions. The traditional value systems can be used as a foundation to build a well-integrated scientific superstructure for the entire human family.

This harmony of a spiritual and scientific mind has the capacity to solve the majority of human problems. Let us now consider this aspect in a little more detail.

To the extent that they give equanimity, peace of mind, the message of love and compassion, all messangers of the 'unknowable and eternal supreme energy' are useful and welcome. Strangely enough. with all their powers of miracles, these godmen and godwomen, still try to vie with each other in the money market.

Thus, these self-appointed agents of the supreme sell mental peace for a few dollars.

Religious concepts, precepts, preaching texts, mythology, ceremonies of worship, customs, etc. have become an integral part of life imbedded in the wider spectrum of culture over thousands of years and these have served to produce a socially cohesive effect on human societies. Individually also, when in spite of his best efforts, a person does not succeed in getting what he wants or in preventing a certain happenings, it is a human psychological experience that he consoles himself by attributing the result to the unknown supreme power. To this extent, it is understandable. But the moment he attributes these powers to some other human beings,living or dead, then such mischief begins that makes a person totally fatalistic, weak and frustrated; or, he can become fanatically blinded, bigoted and dangerous to fellow human beings holding a differing faith.

Hence, as long as faith in the concept of the universality of the supreme is a common factor and there is respect for *differing forms of identification* or a form of the supreme with full tolerance for differing views, there can be no danger. The moment one asserts that a particular form of recognition of the concept of the supreme alone is true, then it leads to intolerance and avoidable conflict.

The quintessence of Indian philosophy is Vedant, which means the ultimate in Vedic knowledge. Over a long period of search and free inquiry into both the inner and the outer world, the seers came to the realisation that universal energy was one. It was total as a whole and the same in a part. It was the same as time, space, matter, life, thought and intellect. The duality or multiplicity is only of forms.

To the eternal question, the answer always was —it is not this, not this, not this (Ne iti, Ne iti, Ne iti).

And ultimately because both the question and the answer came from the mind of man and because the questioner and answerer was man himself, the ultimate answer that seemed to satisfy him most was that the eternal energy was you—yourself, Tat-Twam-Asi—that is you. And again the answer to who am I—Koham, was, I am that—Soham.

Hence, we see that the man's most prominent urge has always been to seek identification with that supreme energy of which he is a part. We find that he is the most eloquent when he sings in praise of this urge identifying with the supreme by different endearing names and forms and virtually pouring himself out to reach and merge with that which he has conjured.

The easiest identification is with someone in the most familiar human form. whether living or dead, like Radha or Mira with Krishna.

Spiritualism has to be understood in the wider context of the power of thinking which is the supreme form of universal energy and with which the human being is alone known to be endowed. This gives him not only the capacity of comprehending the totality of the known universe but also that of

penetrating the unknown and realising his oneness and identity with that cosmic reality. With his mind, he can comprehend the universal mind which he has been calling god and giving the concept of various forms.

Science is the knowledge about the material universe, and its application for human use is technology Spiritualism is the knowledge of the universal mind and its application to life in relation to fellow human beings. Here comes the realm of values governed by emotions and what man as a social being considers to be right and wrong.

Once it is known that both spiritualism and science are, in the ultimate analysis, only two aspects of the same universal energy or reality, it automatically follows that even science has to be tempered by spiritualism and vice versa.

Both spiritualism and science have now reached the common conclusion that the universal energy is the same at the macro and micro-levels and both at the point of infinite and finite stages. But, the knowledge has been acquired purely on account of man's continuing inquiry and the refusal to accept finality. This is thus the touchstone or reference point and the parameter of all konwledge—the capacity and will to question with an open and inquiring mind.

There is indeed still room for human imagination and fantasy. Hence, just as man creates fairy tales and stories about animals which children believe to be true, so also can he create mythological stories about gods having known and realised that the supreme is beyond the human mind's comprehension. He has by experience known what is good and bad and has, therefore, through his imagination shown gods to be the embodiment of good and demons to be that of evil. All poetry and literature gave full freedom to these lights of the imagination. But just as one knows the truth about characters in fairy tales, so also should one know that about the stories of god and his representatives contained in the epics

A look at life on earth, as an observer from a distance, will immediately bring into the right perspective the futility of strife and the colossal waste of talent and energy which takes place in the pursuit of worldly gains, whether in the form of power or material acquisition. Then, whatever be a man's worldly status, whether president, prime minister or absolute dictator, he would realise how most of his strenuous efforts in day-to-day worldly affairs are not only child-like but often childish

Everyone experiences moments of enlightenment or feels a sense of elevation at times. These moments often come when one is by oneself, if one sees a great vision, listens to some noble thoughts and music, if one is even in the presence of death, or in moments of total oneness with someone one loves.

Yet, these moments last only for a short while and one is soon drawn into the routine of attending to immediate problems of personal gain or interest. One again gets dominated by the usual strife for survival, status or the pursuit of group or national interests. Then, to be one up, to dominate and destroy what one considers hostile to one's interest alone becomes the governing force of reason and logic. The next moment, the same man talks of the higher perspectives of universal love, brotherhood and peace as sentiments to be reserved for the area of public utterances, the pulpit and the conference. This is the difference between great men who have lived by certain ideals and those who are placed in great positions, but succumb to the temptations of mundane and immediate gains.

Every great thinker or enlightened or noble person has taught the value of love for all or universal love. And yet, in actual life, everyone wants his love to be exclusive. This is the gap between the ideal and the reality. To the extent that this gap is bridged and one is able to live up to one's ideals and translate them into reality, life becomes more harmonious and beautiful for all.

But when ideals and values are put on a pedestal to be worshipped and eulogised, yet in practice one does just the opposite in the name of pragmatism, realism and practical politics, then one lives a life of dishonesty and hypocrisy, deceiving others but more oneself. We appear to be successful in a worldly way by acquiring wealth, position and power, but even that does not make us happy because we cannot attune ourselves to and harmonise with the well being and happiness of the rest of human society.

The economic aspect of religion

Let us now take up another aspect, i.e., the economic one. the importance of which is growing day by day.

The concept of 'economism' with its emphasis on allowing the few the right to exploit the remaining has led to a general distortion. The economic power in the feudal era was in the hands of those who controlled land and cattle and their head was called the 'king'. To achieve his objectives, he utilised religion with its inherent fatalism and helpless dependence on destiny, which could be changed only by putting blind faith in the priest or the preacher as representing that particular religion. When the king and the religious head came to be one. the control over society was nearly complete. The same situation exists even today, but in a different form.

Now. we do not have kings and feudal lords, but politicians and capitalists; they also utilise the religious heads in many ways and try to perpetuate a new form of feudalism so that they could continue to be in power. We find that even with the growth of science and technology, the system which wants to encourage the right of a few to achieve success in worldly matters, such as the acquisition of wealth and power, is allowed to subsist by relying on fatalism, destiny and luck

If we observe closely, we find that the overwhelming majority of problems that cause pain or hurt human beings are the result of situations or conditions which are man-made. Poverty and the paucity of essentials like nutrition, medicine and hygienic living conditions are the most elementary of the factors which are entirely within the realm of man's capacity to organise by properly utilising the worldly resources. Even accidents which we attribute to destiny, like railway or car accidents, are caused by failure in the management and the maintenance of the equipment and traffic discipline. Because death is one certainty which cannot be ultimately prevented and which still remains imponderable, we seem to accept everything else as beyond the control of man. We therefore attribute all the miseries and sufferings that come to his lot to his destiny and get away by justifying the right of the few intelligent and smart, but cunning, people to create and perpetuate a system where those few alone can have the best of man-made comforts, facilities and opportunities, including education, health, art and culture.

In the bureaucratic sphere, a form of feudalism exists even in a more ruthless manner in the perpetuation of the working of Parkinson's Law resulting in the proliferation of the bureaucratic structure and the epidemic of 'fileria', i.e., the rule by files.

But, basically, a human being must accept that whatever be the areas of knowledge that still remain beyond his perception, the knowledge of the world and that of his environment which he has acquired are sufficient to help him organise human life in a way that could provide everyone with sufficient worldly comforts like shelter, clothing, nutritional food, health and medicine and educational and cultural facilities. He can realise that this is a part of the management of the human and material resources which are available for the whole human family; it is the distortion which gives the right to a few, whether as individuals or as groups or even as nations, to exploit the other larger numbers of human beings and deprive them of the use of these resources.

In modern times, there are different terms used to describe, sometimes even justify, this exploitative situation. It has been called 'capitalism', 'free enterprise', 'consumerism' 'neocolonialism', and so on, but all mean one and the same thing. If a person or a group of persons becomes rich by hook or by crook, even by indulging in smuggling or peddling drugs or such other nefarious activities, it is attributed to destiny, and if millions of others who become victims of the spurious drugs manufactured and of the sale of arms indulged in by these persons or group of persons this also is attributed to their destiny. This is extended to all spheres and leads to the general pervasion of a basic hypocrisy. Unless man is able to unmake this distortion of submitting to fatalism and changes the system where a few can get away and are protected and supported in their right to exploit the rest, there is no hope of bringing about any substantial change for the betterment of human life.

What even the well-meaning leaders of human societies in various parts of the world are trying to do is to improve the lot of some human beings within the framework of this exploitative structure based on destiny and fatalism. Hence, they adopt the theory that if the few are allowed uninhibited or unhindered growth, they will be able to generate enough surplus which can then overflow for the benefit of other human beings. This theory applies to individuals within the country, and, if countries as a whole have had the advantage of being in a position to grow by exploiting other countries, then it applies to the larger international sphere as well. But the law of exploitation, based on fundamental fatalism, remains the same. If man begins with having faith in his own knowledge, in human intellect, which has evolved sufficiently, to make him aware, both of his capacities as well as his limitations, he can then start asking questions, judging everything on the touchstone of reason, refusing to accept or justify a system or a structure of society which gives the right to a few, howsoever intelligent, to exploit the many. Then alone will things start improving.

When we think of it, it is the structure and the system of material and manpower organisation which creates all sorts of distortions in the socio-economic field. The politicians who have replaced the kings of the past and who have been entrusted, at least in democratic societies, the task by the people in the hope that they would bring about a change in the structure, have joined hands with the economic exploiters, and, instead of changing the structure, have become a party to it and the hope of the people is found to be sadly belied.

All this is done by the very politician who often sincerely desires to bring about a change in the life of the suffering people whom he represents and who have reposed their faith in him, but very soon realises that he cannot change the system. Then, in the name of pragmatism and realism, he starts adjusting himself to the system, cooperating with it, and even taking advantage of it. This is true of political leaders all over the world where the system of exploitation prevails.

Then, the question that arise is : Can we bring about a change in this or create a structure or a system in which exploitation would be prevented and opportunities provided to all members of the human society for a balanced growth, protecting and even promoting their individual freedom in all respects ?

When we think of economic activity, shorn of all verbiage and jorgon, we mean the creation of goods and services. The surplus generated by these two activities, utilising the natural resources, becomes capital and wealth. Exchange of goods created by

human beings, whether in the form of barter or in other more intricate forms—what in modern times is called monetary and fiscal management—are all matters of detail which can be made complicated enough to flabbergast the ordinary intellect. But the basic factor in all this economic management remains : it is the few, the intelligent and the powerful who want to retain the right to exploit other human beings who have not had the opportunities of education and do not understand how they are being exploited.

The whole object of the discussion that follows is to emphasise the need for serious and in-depth thinking on various issues and problems that arise in human life in general and also in an individual's life in particular. Unless human beings utilise their thinking faculty, which alone distinguishes them from other living species, not only the quality of existing human life but also its further growth and evolution will get stunted.

It is a common experience today that the thinking process itself has been stifled by laying down fixed parameters and by insisting that even intelligent human beings must think only within the set framework of those parameters. The most common framework is what is known as the 'religous frame work'. Human beings are told that they can think, but that thinking must be within the framework and postulates of a given parameter of a particular religion. It can either be a book or the commands and precepts laid down by a certain prophet or the founder of that religion. It is a condition precedent that what is stated in the book, must never be questioned; nor the statements attributed to the enlightened being or the prophet. The resultant confusion and conflict which have arisen from this basic precondition are only too well known.

Even in modern times, when science and scientific thinking pervade all human activity, the people are told that their thinking must be limited within either the political parameters of a certain ideology or the economic parameters of a certain system. The insistence of authority is so pervasive that very often the thinking process itself gets stagnated and thwarted.

I have decided to take up a case study of a society with which I am more closely acquainted, i.e., the society of India. I propose to deal with the wider spectrum of India's political, social and economic scene and to consider whether in all these fields an approah to some fundamental problems can be resolved on the basis of tested criteria of rational and uninhibited thinking. □

(Next Issue : The Political System)

A recipe for better irrigation

(*Continued from page 12*)

experiments and surveys, conducted on an annual basis. The annual crop-cutting experiments of the NSSO would be of some use, provided necessary retabulation of the data collected, separately for irrigated fields in area under different project commands are undertaken.

A serious lacuna

In minor irrigation, as already noted, the potential created till the end of the Fifth Plan stood at 30 million hectares and an additional potential of 8.00 million hectares are expected to be created during 1980—85, of which as reported in our mid-term appraisal 1983), 4.21 million hectares have already been achieved.

However, there is a serious lacuna in the reporting of potential and utilisation for our minor irrigation, as a cent per cent creation of the potential (as planned) and full utilisation of the potential created are assumed as soon as the storage is made available The prevailing procedures do not make provisions for lesser availability of surface water in tanks/ponds etc. due to shortage of rainfall in the area, or for the non-availability of power (which is a permanent headache of our farmers, specially in the north-western region, and in a few western States), for working mechanised tubewells and electric pumpsets (ground water irrigation).

These problems have been examined by a Committee on Rationalisation of Statistics and Methods of Assessment (Correct Recording) of Minor Irrigation Potential Created through Minor Surface Water and Ground Water Schemes, and attempts have been made by the Committee to sort out some of these problems. It has been recommended that in respect of irrigation potential for groundwater, there was no proper correlation between the State-wise figures reported in terms of volume and those reported in terms of area, and these should be properly reconciled on a top priority basis. In respect of surface water it has been observed that no assessment on volumetric basis was readily available, and necessary surveys should be carried out for the same. For some States, volumetric assessment of water raised/utilised are available for irrigation through State tubewells. The Committee has recommended special surveys for "estimating yardsticks of additional area irrigated" and for ascertaining reasons for disuse of projects.

There is considerable scope for improvement in the concepts and definitions of potential vis-a-vis its utilisation, and till a unified procedure is educated by all States for the collection of irrigation statistics, it would not serve any useful purpose by merely reporting the same figures for capacity created and utilised, and that also a cent per cent achievement in both, as soon as the storage is made available. Progress reports furnished on the basis of such indicators should be rather misleading for monitoring and planning of fresh projects. Minor irrigation programs are badly affected due to shortage of diesel and power, as also for the dalay in energisation of the whole system. This is not being reflected in our minor irrigation utilisation statistics. The achievements, so far recorded, need thorough scrutiny and suitable amendments in the concepts and definitions utilised for the same. □

Do foreign borrowings help?

Neela Mukherjee

External borrowing for India has proved to be doubly advantageous. Not only the price of loans has softened over time, the amount of debt burden has also depreciated, reducing the extent of real external indebtedness. But the growing uncertainty in the international market and the indispensability of external borrowing affect its prospects in the coming decades.

INTERNATIONAL BORROWING for developing countries has not been a one-time phenomenon. Their urge to borrow has continued on some ground or the other such as to meet budgetary deficits, to boost exports, to accelerate growth of the economy or to tide over balance of payments crises. They have borrowed substantially and continuously over the past years and as conditions stand today, they also need to borrow considerably in future. In the process of borrowing, the developing countries have accumulated a huge amount of external debt together with the burden of servicing which usually accompanies such debt.

Some countries, who have contracted external loans, gained in the process of international borrowing for their borrowed funds flowed into productive investments yielding surplus returns. For others, there arose virtual gains in the form of relatively low interest rates at which they borrowed as compared to their counterparts, together with the longer grace years and maturity periods. For still others, gain from international borrowing was a by-product of other factors operating on the domestic economy such as the movements in inflation rates and exchange rates. Increasing trends in domestic inflation and exchange rate appreciation, over long run, reduced the real value of external indebtedness denominated in domestic currency. Gains also creeped in through higher world inflation vis-a-vis domestic inflation in the borrowing country as there took place faster amortization of external indebtedness.

India's experience

India has relied on external loans as an important source of financing its plan programmes, as well as, to tide over its balance of payments crises. Its debt burden of external loans has been increasing over the years at an average rate of 20 per cent per annum. Since, the commencement of the Second Five Year Plan, India's demand for external loans has been on the rise and by the end of 1981-82, she has accumulated outstanding loans worth Rs. 18,000 crores which need to be serviced. India's growth of foreign debt servicing has climbed down from 21 per cent in 1958-73 to 12 per cent in 1975-82. Interest payments increased from a sum of Rs. 10 crores to Rs. 342 crores in 1981-82. But, the rate of increase which was 24.7 per cent in 1956—71 slowed down to 5.7 per cent during the period 1971—82.

This article analyses whether India has gained in the process of international borrowing and, if so, to what extent. The issue has been examined in the context of the behaviour of the rate of interest at which India has borrowed, the differential rates of inflation prevailing in the world vis-a-vis the domestic economy and the exchange rate movements over time.

Though India has drawn loans from different sources, both bilateral and multilateral, at varied rates of interest (see Table I), the average rate of interest has

shown a tendency to decline, as shown in Table II. They have been influenced by softer terms especially

Table I

Interest Rates on different Loans		
Type of Flows	Interest (Percent)	
	A	B
1. I.D.A Loans	0.75	0 75
2. Loans from O E.C.D. countries	5.00	1 00
3. Loans frcm East European countries	6.00	0 00
4. World Bank	8 00	8.00
5. Euro-currency Bank Loans	12.50	10.50

NOTE : Column A gives the hardest set of terms and Column B the softest.
SOURCE : Unctad Secretariat.

Table II

Average Rate of Interest of India's External Loans

Year	Average Rate of Interest (Percent)
1956	3.98
1957	3.49
1958	2.46
1959	2 36
1960	2.25
1961	3.10
1962	2.83
1963	2.45
1964	2.20
1965	2.08
1966	2 53
1967	2.26
1968	2.08
1969	2.00
1970	3.09
1971	2.78
1972	2.89
1973	3.64
1974	2.54
1975	2.39
1976	2.38
1977	2.61
1978	2 67
1979	2.46
1980	2.19
1981	2.53

SOURCE : Calculated from Balance of Payments data of Reserve Bank of India.

of I.D.A. loans which India has been able to utilise extensively from 1966 onwards. A falling trend in average rate of interest on external loans indicate, that, on average, India has been able to obtain more and more foreign loans at lower interest rate given the increasing volume of external loans. A split-up of total interest payments into its price and quantum indices as shown in Table III establishes the fact that, for

Table III

Indices of India's Interest Payments on External Loans Base 1970—100

Year	Quantum Index	Price Index
1956	3.1	282 3
1957	4.2	249 5
1958	7.6	174 1
1959	10.3	166 9
1960	13.8	159.5
1961	18.9	154 9
1962	24.4	140 9
1963	30.4	122 0
1964	39.3	109 9
1965	47.4	103 8
1966	60.9	126 0
1967	74.5	112 9
1968	84.4	103 6
1969	91.9	99 9
1970	100.0	100.0
1971	106.2	90 1
1972	111.5	93 4
1973	94.3	117 8
1974	114.9	82 2
1975	134.6	77.4
1976	148 2	76 9
1977	156.1	84 5
1978	161.9	86.3
1979	169.8	79 8
1980	190.6	71 0
1981	211.4	81 9

SOURCE : Calculated on the basis of India's Balance of Payments data as published by Reserve Bank India.

India, only the quantum index of interest payments has registered an upward growth while the price index or the rate of interest on loans has fallen over the years. India's interest payments have risen only due to the quantum of loans taken. If the average rate of interest had also risen simultaneously India's debt servicing would have been much higher. To the extent the average rate of interest has shown a falling trend India has gained in the process of external borrowing. The impact of rate of interest on total debt servicing is negative as indicated by the correlation value of —0.445. Similarly, the correlation between rate of interest and total interest payments is also negative, the value being—0.428.

Exchange rate movements and inflation rate are both important in determining the real value of external loans. It would be interesting to examine how these two factors have influenced India's real indebtedness. At the outset, it may be remarked that both these factors have been highly volatile over the years studied. But, on the whole, India's rate of domestic inflation has been greater than the rate of exchange rate depreciation excepting the years 1967, 1972, 1975, 1976 and 1981 when the latter rate exceeded the former by 51.52 percent, 5.80 percent,

5.03 percent, 7.17 percent and 1.74 per cent restrictively, as shown in Table IV.

Table IV

India's Domestic Inflation Rate vis-a-vis Rate of Exchange (Percentage)

Year	(A) Annual percentage change in India's consumer prices	(B) Annual percentage change in rate of Indian rupee per U.S. $	(A)—(B)
1961	1.9	-0.167	2.067
1962	2.8	-0.209	3.009
1963	2.8	0.209	2.591
1964	14.0	0.208	13.792
1965	8.9	-0.417	9.317
1966	11.3	-4.167	15.469
1967	13 4	64.925	-51.525
1968	3.0	0.172	2.828
1969	1.7	-0.899	2.599
1970	5.1	0.227	4.873
1971	3.3	-3.928	7.228
1972	5.2	11.006	-5.806
1973	17.8	1.523	16.279
1974	27.8	-00.639	28.439
1975	5.6	10.634	-5.034
1976	-7.8	-0.627	-7.173
1977	8.5	-7.566	16.066
1978	2.5	-0.256	2.756
1979	6 3	-3.431	9.731
1980	11.5	0.291	11.209
1981	13.0	14.741	-1.741
1982	7.9	5.879	2.021

On average, the growth in domestic inflation has surpassed exchange rate depreciation by 3.6 percent. The net impact of such movements has been beneficial to India and over the years the real value of external indebtedness has been on the decline at an average rate of 3.6 percent.

The rate of inflation prevailing in the world also matters in determining the real value of external indebtedness. In case the world inflation rate exceeds the domestic inflation rate there takes place faster amortization of external indebtedness. Table V gives the differences in rates of inflation prevailing in the world and India. On average, the world inflation rate

Table V

Difference in Inflation Rates of World and of India

Year	Rate of growth of world inflation minus that of India's inflation
1961	0.7
1962	0.8
1963	1.2
1964	-9.5
1965	-4.0
1966	-6.2
1967	-9.2
1968	1.4
1969	3.4
1970	0.9
1971	2.6
1972	0.6
1973	-8.2
1974	-12.2
1975	8.1
1976	18.7
1977	2.6
1978	6 9
1979	5.5
1980	4.3
1981	1.0
1982	4 4

has been higher than India's inflation rate by 0.63 percent and amortization of India's external indebtedness through the inflation factor has been faster to that extent.

Conclusion

India's experience is not in line with that of her counterparts, some of whom have experienced rapid rise in rates of interest having borrowed in the private markets abroad. Their exchange rate depreciations have also been strong enough to outweigh inflationary forces and the net result has been an increase in external debt burden. In striking contrast to this, external borrowing for India, has proved to be doubly advantageous. Not only that the price of loans has softened over time, the amount of debt burden has also depreciated, thus, reducing the extent of real external indebtedness. So far, so good. But the growing uncertainty in the international market and the indispensability of external borrowing undermine the prospects of the prevailing trends in real external indebtedness in the coming decades. □

A revolution for children

The number of children who died in the developing world in 1983 is the equivalent of the combined young-child population of Britain, France, Italy and the Federal Republic of German. However the UNICEF 1984 State of the World's Children Report holds out a new hope to millions of children. Drawing together examples from 20 different countries, the report highlights four low-cost breakthroughs which could bring about a "children's revolution" and save the lives of half of those who now die.

FROM VILLAGES in Guatemala, Honduras, Egypt, India, and Bangladesh, the report announces that child deaths have been halved by a simple technique called oral rehydration therapy. By far the biggest killer of children in the world today is dehydration—caused by ordinary diarrhoea. Previously, it could only be treated by intravenous feeding. Now it can be prevented or cured by a mixture of salt, sugar, and water given to the child by the parents.

If mothers know how and when to use this oral rehydration method, then most of the five million child deaths a year from dehydration can be prevented. The technique has been described by *The Lancet*, Britain's leading medical journal, as "potentially the greatest medical breakthrough this century".

Growth monitoring

At least 34 countries have now begun industrial production of the oral rehydration salts. So far 80 million packets a year are being produced—well short of the billion or more which could be needed if the sachets are to be available for all children at risk. "But a shortage of packaged salts," says the report, "need not prevent a rapid spread of the treatment. For if parents know how to mix sugar, salt, and water in the right proportions, an effective oral rehydration solution can be made in the child's own home."

The second of the low-cost breakthroughs is the use of simple ten-cent growth charts to monitor children's weight gain. With regular weighing and the advice of health workers, the charts could help parents prevent up to half of the malnutrition which underlies the deaths of several million children a year and the poor growth of many millions more

"Most malnutrition is invisible - even to the child's mother," says the report, "and its very invisibility is one of the main barriers to its prevention or cure. More than half of all cases of malnutrition are to be found in households where there is no absolute shortage of food."

Regular monthly weighing and the entering up of the result on a growth chart can make malnutrition visible to the parents - warning them that the child needs supplementary foods, more frequent feeding, or medical help.

Breastfeeding

Several million young children may be falling into malnutrition every year because of the trend towards bottlefeeding in poor countries. Although breastfeeding is more hygienic and more nutritious. and also "immunizes" young childden against common infections, millions of mothers are turning towards the more "modern" artificial subsitutes which hey cannot afford, do not need, and are unable to safely use.

Often without clean water, or sterilizing equipment, or fuel and time for boiling, or enough money to buy enough of the milk powder, the mothers who turn to feeding bottles are unknowingly risking the health and lives of their infants. Drawing together 33 comparative studies from around the world, the London School of Hygiene and Tropical Medicine has recently concluded that the risk of death in infancy is approximately five times greater for babies who are bottlefed than for babies who are breastfed.

A third element in the "children's revolution" must therefore be the rapid promotion of present knowledge about the advantages of breastfeeding and

the dangers of bottlefeeding. Already over 100 nations have begun campaigns to promote breastfeeding and to restrict the marketing of artifical substitutes and 11 countries have completely banned all advertising of infant formula.

Immunization

The fourth of the low-cost techniques is the immunization of all children against the "big six" communicable diseases of childhood - measles, whooping cough, tetanus, diphtheria, tuberculosis, and polio. Together, these six infections kill an estimated five million children a year and disable five million more. Protection against all of them costs approximately five dollars per child. Yet less than 20 per cent of the developing world's children are immunized each year.

Apart from problems of money and management, the main barrier to immunizing all children is that parents often do not realize how important it is to come back two or three times for the full course of injections. It is not uncommon, says the report, for only half of the children to report for the second injection and for only half of those to return for the third.

Recession

For the rest of the 1980s, predicts the report, it is unlikely that there will be any significant increase in the real resources available for improving child welfare. Maintaining progress for children will therefore depend upon making more of the resources which are available. The four techniques brought together in the *State of the World's childern* report could streamline the effort to improve the lives of children so that progress can be made even against the headwind of world recession.

"Coming together at this time," says the report, "these breakthroughs in technique and knowledge could soon be helping to save the lives of 20,000 children a day, to prevent an equal number from becoming disabled, and to promote the healthy growth of many millions more."

To allay the fears of those who imagine that a drastic reduction in child deaths would refuel the "population explosion", the *State of the World's Children* report also points out that the areas of the developing world which have done most to reduce child deaths are also the areas where birth rates have fallen most steeply. When parents are more confident that their children will survive, they are more willing to consider family planning.

The potential for a children's revolution has been welcomed by the Secretary General of the United Nations and by the presidents or prime ministers of Bolivia, Britain, Canada, Colombia, France, Haiti, India, Pakistan, The Philippines, Sri Lanka, Sweden, Tanzania, Thailand, and the United States. In Rome the Holy See has also announced that "the entire catholic aid network in the various countries of the world will lend its maximum support to these important simple proposals to improve the health of hundreds of millions of children".

But potential, says the report, is not enough. The challenge now is to translate the local successes which show that a child health revolution is possible into intensive national campaigns which will make that revolution a reality. In many developing nations, the official health services reach only a quarter of the people. Bringing the benefits of these techniques to the majority of children will therefore depend on the health services lending their expertise to much more far-reaching campaigns involving every kind of organization—"the local officials and the community development workers, the teachers and the schools, the churches and the clergy, the moques and the imams, the trade unions and the employers federations, the politicians and the civil servants, the lawyers and the media, the voluntary organizations and the aid agencies, the women's organizations and the environmental groups, the family planning organizations and the youth movements, the trademen and the shopkeepers".

The mobilization of resources on this scale, plus the political commitment of a nation's leaders, says the report, are what will "take the idea of the children's revolution off the shelf of potential and put it at the disposal of people".

"That challenge is now primarily political rather than technical or financial," concludes the report. "The evidence leaves no room for doubt that low-cost techniques are available to act as a spring-board for this great leap forward for the world's children. Any government which now decides to make a serious commitment to saving the lives and protecting the health and growth of children can now move towards that goal. And any government, institution, or individual in the industrialized world wishing to assist in that process also now has a clear opportunity to do so.

Definite actions with definite results are available now at relatively low financial and political cost. And they are actions which almost everybody can become involved. How much longer are we going to ask children to wait "

(Courtesy : UNICEF Report)

Last volumes of Gandhian works out

The last two volumes (89th and 90th) of the Collected Works of Mahatma Gandhi (CWMG) were released by the Prime Minister, Smt. Indira Gandhi, in New Delhi recently.

Among others, the 85-year-old, Prof. K. Swaminathan, the Chief Editor of the Collected Works, was present on the occasion.

The series of volumes, brought out by the Publications Division of the Ministry of Information and Broadcasting, contain all the available writings, speeches, letters, interviews and other utterances of the Mahatma, presented in a chronological order with explanatory notes and appendices.

The work on the project was started in February, 1956, with Dr. Bharatan Kumarappa as its first Chief Editor. He was succeeded by Shri Jairamdas Daulatram, a close associate of Gandhiji. □

Harnessing renewabl(sources of energ]

Usha Patel & Amrit Patel

While we have to put in our best efforts to increase the production, utilisation and distribution of conventional sources of energy, it has become imperative to explore the enormous potential of renewal sources. Optimum harnessing of renewable sources of energy by the application of the tools of science and technology could result in rapid progress in the key sector of energy, says the author.

INDIA IS POOR and America is rich because an American consumes nearly 50 times as much energy as an Indian. Energy can be an effective weapon in the battle against abject poverty. The strength of the U.S.A. and the U.S.S.R. during the post second war period can be explained by the tremendous availability of usable energy in these two countries. That the United States has become the major food supplier to the rest of the world can be explained by the miracle which energy has brought about by transforming agriculture from a petty occupation of unorganised farmers to the mighty agri-business.

Integrated energy systems

India has now 186 persons per square kilometre as against 233 persons in the United Kingdom. The United Kingdom, however, can comfortably look after this concentration of population and India cannot manage even a less dense population because per capita consumption of energy in India is only 221 kg of coal equivalent as against 5265 kg in the United Kingdom. So, whenever the rate of growth of the energy sector continues to be far greater than that of the growth in population, society transforms itself from a subsistence economy into a developed one with a higher standard of living for almost all. Energy has thus emerged as a strategic factor in the process of economic development.

Electricity supplied through a grid is not only mor expensive but it is also not suited to meet the specia lised demand|requirements in the household, agricu ture and small scale cottage industry sectors i villages. It is against this background that integrate energy systems which take into account all the fac of the decentralised rural energy problem and fc any given location should be developed. The syste should necessarily be based on an optimum matcl ing of the needs with energy availability, particularl renewable sources. In other words, it takes into cor sideration not only the energy need, patterns, ava lability of local energy resources but also the cultur and social habits of the people. This system|approac could provide lighting for houses and streets; fu for cooking and heating water; mechanical power fc pumping water for irrigation and drinking; drying c crops; chilling mechanical power and electricity fc rural industry and low grade heat for cottage industry.

The main sources of commercial energy supplies are coal, oil, hydro and nuclear power. These supplies account for a little under 60 per cent of the total energy consumption (progressively increased from about 33 per cent in 1953-54). A significant feature of the Indian energy scene is the important role of non-commercial forms of energy viz-firewood, agricultural waste and animal dung. Even today they provide more than 40 per cent of the total energy being consumed in India. The contribution from firewood, agricultural waste and animal dung in the total non-commercial energy consumption is estimated to be 65 per cent, 15 per cent and 20 per cent respectively.

A basic feature is however, the low per capita consumption (178 kg coal equivalent commercial energy and about 137 kg coal equivalent non-commercial energy per year). This is as compared with coal equivalent commercial energy consumptions of 6360 kg in developed countries and 449 kg in the developing countries per year.

High priority

The Government has accorded high priority to the development of energy sector in the Sixth Plan and the Commission for Additional Sources of Energy (CASE) has been set up for formulating policies and programmes for the development of new and renewable sources of energy. It is against this background an attempt is made here to appreciate the work being done elsewhere and need for exploring the scope and exploiting the potential of tidal energy, geothermal energy, micro-hydel power and oceanic energy.

Man has been attempting for a long time to produce power from the tides. As early as the eleventh century tides were harnessed in a small way in England and other West European countries where small tide mills were used to grind corn. In Chelsea, Massachusette, U.S.A. in 1934 'Slade's Mill' was built to grind spices which developed about 50 HP from four water wheels driven by the head created by damming a small estuary to trap water at high tide.

Tidal energy

According to Clancy (1973) energy of the tides is continuously being dissipated at a rate which is in the order of a billion horse power. This vast power output comes at the expense of the Kinetic Energy of the earth-moon system. The energy in the ocean tides is enormous. A large amount of the total tidal energy is concentrated in a very small fraction of the ocean near the continental coasts. Costal regions are the most accessible portions of the ocean and hence they are potentially valuable sites for man to harness tidal energy. The phenomenon of tides has been so extensively studied by the scientists in the course of centuries that it is possible to make accurate predictions of the state of the tides for any moment in future. The power inherent in tides has, however, remined unexploited till recent times.

A survey of the attempts made by the engineers to master the tides during the last 50 to 60 years leads to the conclusion that no insurmountable obstacles stand in the way of harnessing the tides by man's intelligence. With the development of electric generators, the tidal energy that was used for so long as a source of mechanical energy could finally be converted to an energy form capable of the wide distribution that is characteristic of modern energy utilisation. The method of producing tidal hydro-electric energy is essentially more or less the same as that used in hyro-electric plants on rivers. Advanced technology has now produced large turbines that can operate in both directions as tide flows both in and out.

It was the mouth of the rance river in France that was first chosen in 1961 for the site of a tidal station and the Rance Station was the first to go into service, opening in 1966, with a capacity of 240 MW. However, when in France between 1965 and 1970 the cost benefit ratio tilted in favour of nuclear energy, the Rance Station was closed down. France was not the only country to put the brake on tidal energy. Canada also halted its very extensive projects and at the same time small stations and the Americans were not interested in the formula. But the crisis in late 1973 drastically changed the picture. The British decided to pick up the thread of their project on the Seven and the Americans began serious research into tidal power. South Korea will soon undertake a project twice as big as that of the Rance Station.

Preliminary investigations

Some preliminary investigations on the possibility of exploiting the tidal power have been carried out by various agencies in the past in India and sometime back a UNDP expert also visited the country to advise on the possibilites of its development. The possible area where the tidal range is fairly high and where tidal power could be developed are in the Gulfs of Kutch and Cambay along the West Coast and in the Sunderbans areas in West Bengal along the East Coast.

The main problem with the tidal energy relates to the high initial cost, the variable nature of output and the technical and economical problems involved in firming of this power. Further detailed studies and investigations are required to finalise the schemes of development and establish their technical feasibility and economic viability. Investigation and formulation of schemes for tidal power development requires an inter-disciplinary approach involving participation by several organisations.

A coordination committee was set up in May 1979, under the chairmanship of the chairman, Central Electricity Authority (CEA) to consider further course of action and formulate programme of investigation and studies relating to tidal power development in the country. A report for carrying out investigations has been prepared by the coordination committee.

The National Institute of Oceanography (NIO) sponsored studies on the sediment dynamics of the Gulf of Kutch and the neighbouring continental shelf have resulted in the identification of a new phenomenon called "dynamic barrier effect". These studies further suggest that the Gulf of Kutch is better suited for tidal power generation than the Gulf of Cambay.

Geothermal energy

It can be defined as the heat of the earth. It is well known that the earth, with a hot core having a temperature of over 3000° C is a mammoth heat engine which is continuously generating an incalculable amount of energy. As experienced in deep mines or bore holes there is a perceptible increase in temperature from the surface towards the interior of the earth. This rate of increase is called geothermal gradient and the global average is an increase of 30°C per kilometre of depth. But in selective geological environments, episodes of volcanic activity, geysers and hotsprings provide the surface manifestations of this vast reservoir of energy. When recoverable through various technological processes, the heat of the earth can be made to do useful work.

Geothermal energy has many direct applications. These include space heating and air conditioning, major consumers of energy in the U.S. (a fourth of

America's total electricity consumption goes to heat and cool buildings and factories and to warm domestic water). Direct utilization of this resource is estimated at 10 times that of electric power production.

Low heat geothermal energy can be used in domestic and industrial refrigeration, industrial process heat, heating and cooling of green houses and heating of animal shelters, crop drying and food dehydration, agricultural irrigation and small-scale lift irrigation. Fresh water is often a welcome by-product. Even desalination of brackish water is possible and there is a bonus of chemicals, minerals and gases as by-products. In home-heating especially geothermal energy has vast cost and efficiency advantages since ordinary boilers that produce hot water or low temperature steam have conversion losses as high as 40 per cent. Geothermal desalination is now used for fish farming and raising of animal in Japan. More than 90 per cent of the homes in Raykjavik Iceland are tody heated by this versatile resources. In Hungary a million square metres of green houses are so served. In the Soviet Union direct heating saves million tonnes of oil a year.

Geothermal studies in India

Exploration for geothermal energy involves basic geological, hydro-geological, hydrogeochemical and geophysical studies followed by drilling. In India geothermal studies started only in the sixties and naturally around known areas with surface manifestations in the form of thermal springs numbering over 300. In this sub-continent no post tertiary volcanic areas are known except in Bay Islands. Important hot spring areas are located in Ladakh, Himachal Pradesh, U.P., Himalayas, the west cost of Maharashtra, Gujarat, Peninsular Shield margins in Bihar, West Bengal, Orissa and Andhra. The Geological Survey of India (GSI) is the principal exploration agency in India and in recent past a UNDP project has been launched in Parvati valley of Himachal Pradesh and in west coast of Konkan Maharashtra with the GSI as the lead agency. The GSI on its own, with financing from Central Electricity Authority (CEA) has proved a power potential of 7 to 8 MW down to a depth of 100 m in Puga valley of Ladakh.

Investigations and studies are being conducted in the Puga Valley, in association with several organisations viz. Geological Survey of India (GSI), Oil and Natural Gas Commission (ONGC), Regional Research Laboratory (RRL) at Jammu, University of Roorkee, National Geophysical Research Institute (NGRI), Central Electricity Authority (CEA). A comprehensive programme of explorations in the valley has been prepared to establish the geothermal potential. The programme includes further hydrogeological, glaciological, geochemical, geophysical surveys followed by drilling of exploratory holes.

In the year 1979-80 the GSI carried out further hydrogeological, geochemical, glaciological and geological studies in the valley. They also conduct seismic refraction and heat flow studies. Work plan for 1980-81 included continuation of these surveys and procurement of drilling accessories for 500 metres deep exploratory holes.

The exploration work in the Parbati valley in Himachal Pradesh is being carried out with United Nations Development Programme (UNDP) assistance. Various organisations such as GSI, NGRI, ONGC, CEA, India Meteorological Deptt. (IMD) and University of Roorkee are involved in this project. During the year 1979-80 micro-earthquake and audio-magnetic telluric surveys were completed and temperature gradient survey was envisaged to be completed by March 1980. Based on the results of all these surveys, drilling and deep exploration hole upto 1000 metre depth was proposed to be taken up in 1980-81.

Micro-hydro electric power

According to the study submitted to the U.N. Energy Conference, the world has enormous energy potential from water but this is hardly used by the needy developing countries. So far only 17 per cent of this technically exploitable potential has been developed worldwide. Of this, 59 per cent is exploited in Europe but only 8 per cent in Africa, Latin America and Asia. It could be possible by the year 2020 to use upto 80 per cent of hydro-electric power.

Experts are of the view that of all renewable energy sources known today, water power is the most practical and effective. Half of the world's water energy potential was located in the developing countries which were particularly badly hit by rising oil prices. Brazil would be able to cover its entire electricity requirements from water by the end of the century. For expanding hydro-energy the technical processes are already appreciated and mastered as contrary to many other new or renewable sources of energy. Besides, the cost of water energy over the past 15 to 20 years had risen by a much slower rate that of oil, coal and atomic energy. The study mentions that in the coming years small scale and micro scale stations (less than one megawatt and less than 10 megawatts) would probably be set up. In several European countries and the U.S.A. where over the past decades thousands of small plants had been shut down are now to be reopened. Energy from water would make rapid progress in the third world, since meanwhile even small plants were producing electricity at prices which were least favourable as energy produced by diesel engines.

Micro-hydel power stations have been in existence in India for almost eighty years. The oldest of these dates back to 1897 and is still functioning at Darjeeling. Over 200 micro-hydel stations ranging from 5 kw have come up in Himachal Pradesh, U.P., Sikkim, Arunachal Pradesh, NEFA etc. The potential for micro-hydel sets offer distinct advantages viz. (i) achievement of self sufficiency in power for the hilly regions with local resources, (ii) development of small scale industries based on local raw materials and forest produce, (iii) relief for the overload grids due to reduction in load demand of the rural sector from major power stations, (iv) energy conservation through reduced transmission losses.

Large hydro-potential

The mini, micro, canal drop and other probable low head developments in the country provide a hydro-potential equivalent to an annual energy generation of about 25 TWH. The general topography and other favourable conditions in various parts of the country and the low maintenance and operation problems, permit availability of power supply through micro/mini hydel schemes in remote and isolated regions. Such schemes can be completed in short time periods and start yielding quick benefits. Besides, they do not have adverse environmental impacts as in the case of certain large hydro-electric projects that may involve large scale flooding etc.

Further, technological advances in development of suitable equipment and the increasing irrigation and canal network are adding to the potential for low head developments. Micro and mini hydro plants usually have installed capacities of upto 5000 KW and 20,000 KW with unit capacities ranging upto 1000 KW and 7500 KW respectively. Small scale hydro development is very site specific and depends on stream flow and the head available. Potential sites are usually available on existing dams and barrages, canal and river falls, hill streams, low head tidal power etc. The head is dependent on the topography of the site and is classified as low head (upto 12 metres), intermediate head (upto 100 metres) and high head (above 100 metres).

During the last 30 years, the people's Republic of China has increased the number of small hydro-power stations from 26 with a total generating capacity of less than 3 mw to about 8,000 in addition to 100 large and medium size hydro power stations. As a result, 86 per cent of the communes in the rural areas have access to electric power.

In India, surveys have been conducted by State and Central agencies to assess the micro-hydel potential in selected areas of the hill regions. However, a comprehensive survey of the inaccessible areas covering mountain, streams, rivers, etc. in the Himalayan region and north eastern States needs to be carried out. This would involve detailed hydrological and meteorological investigations. Feasibility studies on scientific lines need to be conducted and these should include all aspects, particularly the socio-economic implications. Accurate and reliable load studies need to be conducted and planning for down-stream activities such as cottage industries, irrigation etc. must be carried out in consort. The financial viability of the projects hinges on the revenue earned on saleable power to infrastructural development to stimulate demand. China has achieved a remarkable degree of standardization of micro-hydel sets. There is need for a similar kind of standardization of equipment based on the varying conditions encountered in India. This would facilitate mass production and would bring down costs. In India one KW installed capacity costs over Rs. 9000 as against Rs. 3000 in China. Cost reduction through better project planning, design changes, substitution, use of locally available materials and labour and construction of major equipments at or near site would be desirable.

Oceanic energy

Ocean thermal energy conversion (OTEC) involves using temperature difference between warm surface water and colder ocean depths to produce electricity. Six sevenths of the total sun energy received by the earth is absorbed in the upper layer of the ocean.

This energy is converted to heat (warm suface water) and then part of it is reradiated to space. OTEC is the only solar energy technology that does not involve energy storage. It can operate 24 hours a day whereas other solar energy technologies are limited by daylight hours or energy storage. Potentially, OTEC can produce 40 times the electric power used in the U.S.A. The ocean thermal gradient is a global resource; worldwide there are 40 sites. The best sites are in tropical oceans within 10° latitude of the equator. The large scale distribution of the OTEC thermal resources for the globe has been determined. Colour charts of this resource has been printed for worldwide distribution by the U.S. Department of Energy. Other nations and groups are making progress in the development and potential use of this resource. EUROCEAN—an association of 25 European industrial companies from nine countries—has proposed OTEC project for a 10 megawatt, floating pilot plant based on the closed cycle.

Similarly, a French OTEC programme is also underway. It aims at experimenting a one to 10 megawatt pilot plant in a French tropical island before 1985. OTEC efforts will put French industry in a position to propose construction of reliable small and medium sized OTEC power plants for the production of electricity and fresh water in equatorial islands. The open cycle OTEC can produce desalinated water—an attractive by-product for numerous islands. At present, according to the 200 mile economic zone favoured by the Law of Sea Conference, about eight per cent of the global OTEC zone is under French jurisdiction. France is interested in this form of clean renewable energy for their fuel dependent tropical islands. These islands are completely fuel dependent and the cost of a kilowatt hour of electricity is more than three times the cost of electricity in continental France.

Japan is another nation that plans to make use of OTEC. Although the land area of Japan is small, the country is surrounded by a large expansion of sea; mostly warm and Kuroshio—one of the largest sea currents—always brings a significant amount of thermal energy from the tropical zone. ☐

Combating desertification

Dr. Ishwar Prakash

In view of the magnitude of the problems of combating desertification in the Indian sub-continent, it is essential to have comprehensive, phased action plans of development with clear priorities, backed by people's participation and political and administrative will, says the author.

THE DESERTIFICATION PROCESSES in the Indian sub-continent are extremely varied. In the Thar desert, the diminution of the biological productivity of the land is more in areas receiving about 400 mm of rain in a year than in the drier areas, and it is mostly due to escalation of the human and livestock populations.

Location-specific efforts

With a variety of factors causing desertification in different rainfall zones and terrains, it is but natural that efforts to combat it should be location-specific, with the broad objective of increasing productivity and restoring the biological potential of the land. Whereas in the Thar desert, serious research and development works to combat desertification have been going on for 35 years, they are still at a take-off stage in other countries. The close association of actions for combating desertification with land-use patterns in arid lands is based on a fragile balance, which can be easily upset. It is essential, therefore, that plans of development should be based on (i) maintaining optimal, sustainable productivity; (ii) the application of ecologically and socio-culturally sound technologies that will not upset the ecological balance; and (iii) the development of innovative modalities for administration and extension services.

It is necessary in this context, that the implementation of the strategies to combat desertification should involve the participation of the desert-dwellers, in particular the farmers. This is because the agricultural practices adopted in low rainfall arid areas are injurious to the land and aggravate sand movement. As a consequence, emphasis has to be laid on highyielding forage grasses and legumes, improved grasslands and livestock production.

Ecological principles

It is essential to assess problems and their magnitude on ecological principles, keeping in view critical indicators of desertification. Since vast geographic expanses are involved, remote-sensing techniques are needed quickly to delineate vulnerable areas, sand-piling and salinity encroachments, and to monitor biotic disturbances.

Based on interpretation of Landsat imageries (Bands 4 and 5, supplied by the Indian Space Research Organisation—ISRO) and Ground Truth Data, the Central Arid Zone Research Institute (CAZRI), Jodhpur, has prepared maps of the Rajasthan deserts on 1:2.5 million and 1:2 million scales. These are supported by a new concept of composite mapping—Major Land Resources Unit (MLRU)—which has been developed at CAZRI. This unit enables the composite mapping of areas having similar resource potential and management needs.

In other words, besides the recurring pattern of soil, land-form and vegetation, the MLRUs also indicate the pattern of human activities and the resource potential of an area for development planning. The human factors are determined by socio-economic surveys. Integrated natural resource surveys in the Rajasthan desert, parts of Haryana, Gujarat, and Andhra Pradesh are being extensively used by various developmental agencies for natural resources and land-use management.

Remote sensing techniques

Remote sensing techniques are also being used in Nepal to locate land-slides and floods. Other countries are also possibly organising to prepare development and action plans based on remote sensing and ground surveys, requiring as these do, highly skilled personnel, supported by an adequate infrastructure.

Over-exploitation has reduced the vegetation cover in parts of the Indian sub-continent to a point of no return. Pests, like rodents and insects, aggravate the situation. Serious efforts are required to plan and organise (with public participation) the revegetation programmes.

In North-West India, serious efforts have been made to generate technologies for re-vegetating the desert. On the basis of highly viable, cost-worthy and feasible strategies developed by CAZRI for sand-dune fixation, soil conservation, water harvesting, shelterbelt plantation, and pasture management, large areas are being covered by farm forestry,silvi-pastoral plantation, village fuelwood plantation and shelterbelt-cum-roadside and canal-bank plantations. Emphasis is being laid on range management to provide nutritive fodder to livestock. These massive programmes are being implemented through the Drought Prone Area Programme (DPAP), the Desert Development Programme (DDP) and the Rural Development Programme, coordinated by the Desert Development Commissioner.

The decline of the forest area in Nepal indicates its critical state in the terai and mid-land zones. The combined pressure of shifting cultivation and demand for fuel and fodder has prevented forest growth. However, intensive efforts at afforestation are being made under several projects of watershed management and resource conservation in the hope of beating the utilisation rate.

Over exploitation of ground wate

In the dry-zones, over-exploitation of ground water as well as the unplanned use of surface water pose serious problems. In the Thar desert, a case study in the Luni Development Block revealed that the discharge potential of 83 per cent of the wells had greatly dropped over a decade. Most of the wells moreover, had become highly saline and irrigation with such water had laid waste large tracts of land (usar). Likewise, excessive irrigation along the Rajasthan Canal has caused water-logging. A number of technologies have been developed at CAZRI and are being implemented to improve the irrigation systems, quality of water and soil fertility.

A large number of varieties of rain-fed crops have been selected and tested at CAZRI and by other organisations. These early maturing, high-yielding strains, with low water requirements, have been released for extensive plantation in the North-west desert of India. These include millets, minor millets, sorghum, moong, moth, guar (pulses) and sesame (oilseed). A number of techniques for conserving and harvesting rain water are being used. Very successful methodologies for raising budded ber (Zizyphus mauritiana) orchards have been developed by CAZRI to provide the farmer an assured income even in years of drought. The drip-irrigation system standardised at CAZRI for vegetable crops and orchards has not only increased production, but it has also made it possible to use saline water without serious hazards of salinity developing.

Bio-climatic zones

Intensive studies on upgrading the denuded range land in different bio-climatic zones in the Thar. desert have been carried out at CAZRI over three decades. These technologies and better grazing practices are being introduced through DPAP and DDP and in the Rajasthan Canal Command areas. Their success is evident in the superb milk collecting and dairying systems which have sprung up in ten years in the Thar region. Village cooperative societies, besides collecting milk, provide balanced cattle feed veterinary first-aid, artificial insemination and improved fodder seeds. More than 2,200 such cooperatives, spread over 19 districts, are federated into the Rajasthan Cooperative Dairy Federation, which has set up dairy plants, milk chilling centres, cattle feed plants and a frozen semen bank.

Livestock, the mainstay of the desert people, provides employment to about two-thirds of Rajasthan's population, yet it produces only 12 per cent of the State's income. CAZRI and its sister institution, the Central Sheep and Wool Research Institute at Avikanagar, near Jaipur, have taken up extensive cross-breeding of sheep for production of better carpet and apparel wool. In cross-breeding of the exotic Karakul and the local Malpura, Sonadi and Marwari breeds promise wool of acceptable quality. Highly productive goats have been identified and selected for breeding.

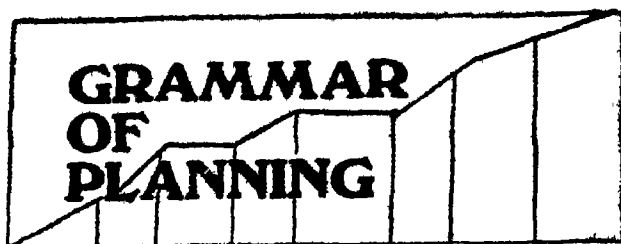
It is for prime importance to provide sources of alternate energy to desert dwellers to save the trees and other vegetation used for fuel. Research at CAZRI on the use of solar heat for domestic, agricultural and industrial purposes, such as heating water, dehydration of fruits and vegetables, cooking and distillation of saline water, has produced highly efficient and inexpensive appliances : a simple, storage type water heater, five types of solar cookers, agricultural dryers and solar stills. These and biogas plants are gradually coming into use.

Massive programmes have been started in the arid and semi-arid zones of India to transfer technologies to would-be users. Nevertheless, a significant breakthrough is yet to be achieved on the development front. In view of the magnitude of the problems in the Indian sub-continent of combating desertification, it is essential to have comprehensive, phased action plans of development with clear priorities, backed by people's participation and political and administrative will. (DEPTH news India.)

A Serialisation

4

P. R. Dubhashi

The sectoral planning

In the last issue the author explained the 'Planning typology'. Here he discusses sectors of planning, such as primary, secondary, tertiary, infrastructure and export and opines, "planning provides for consistency between the aggregate growth rate and the sectoral growth rates, between investment and output, between savings and investment, between manpower and growth rate, and between output and consumer demand."

PLANNING CAN BEGIN either backwards from the goals to be reached or forwards from the resources available for development. In the first case, the attempt of the planners would be to see that the goals to be achieved are reached as economically and speedily as possible, i.e., with the least possible expenditure of resources and in the shortest possible time.

On the other hand, in the latter case the objective of the planner would be to attain the maximum possible results by the exploitation of resources that are available within the plan period. In drawing up a development plan, the first task is to discover by surveying its natural resources, what geographical advantages and economic possibilities it may have.

The goals of planning would be either comprehensive or limited in nature. Where the concept of planning is limited to fill in the gaps or cure deficiencies of the economic system, the goals would be limited in nature and could be reached by specific programmes of public investment and public policies.

Where, however, the goals are couched in general or aggregate terms, such as a definite increase in the national income, output, employment, and its equitable distribution between different sections of the society and regions in the economy, or where the goal is an increase in the standard of living as indicated by per capita income, comprehensive planning would obviously be required.

Comprehensive planning

Comprehensive development planning generally starts with the stipulation of a pre-determined increase in the level of living of the people. Broadly, the level is expressed in terms of per capita income, i.e. by the division of the gross national product by the total population. In stipulating a higher standard of living, countries often make comparison with the standard of living in other countries developing or developed, or they compare it with their own past. Such comparison in general terms could, however be misleading since they do not take into account environmental variations and different scales of preferences, not to talk of price variations which could make mere monetary comparison meaningless unless they are corrected taking note of the price differences. Thus, limited expenditure on clothing in hot climates of south India may not necessarily indicate a lower standard of living as compared with that of people in cooler climates requiring warm clothing nor need absence of central heating in most parts of India and Asia necessarily indicate lower level of living. As Jagadeesh Bhagwati has pointed out, a refrigerator may not find a place in the scale of preference of the Eskimos.

Having allowed for these variations, it is often stated that fixing the goals of planning in terms of rate of growth is more a matter of political choice than of economic arithmetic. By political choice of course, is meant a choice based on the articulation of the aspirations of the people. However, people hardly express their choice in terms of percentage of living and thus the choice regarding the increase in the rate of economic growth tends to be somewhat arbitrary in nature.

Rate of growth

A choice regarding the rate of growth is a choice between the present consumption and the future consumption. The price of higher growth rate has to be paid in the form of postponement of current con-

sumption. A higher production of consumer goods and services in future requires the higher capacity to produce the same and this can be had only by creating that capacity out of resources diverted from current consumption. Hence as Bauchet says : "In determining the respective spheres of consumption and investment, a balance must be struck between the growing demand for consumer goods and the necessity of increasing nation's capital in order to produce more goods." Growth cannot be the result simply of optimum allocation of resources, optimum in the sense that there is equal return from last unit of investment in various channels of investment. The rate of investment has itself to be jacked up. Rate of growth, therefore, becomes a conscious decision of the planners rather than a volition of individual members of the society.

Actually the process of economic arithmetic of planning begins with different choices regarding the rates of growth and the one which is more consistent with the availability of resources tends to be chosen as the more objective in character.

Once the general rate of growth of gross national product is determined, it has to be compared with the expected growth of population growth in order to arrive at the net increase in per capita income.

Reduction in inequalities

Goals of planning, however, cannot simply be expressed in terms of an aggregate increase in the gross national product or even of the per capita income. The plan has to take into account the distributary aspects as well. If all additional income is simply taken up by sections of population who have already enough, the goals of planning would not have been attained. Indeed, in poor countries as in affluent countries, re-distribution of the gross national product is bound to be one of the significant objectives of planning. The redistributary goals may have to be expressed in terms of reduction in the degree of inequality or in terms of greater increase in the rate of growth of income of population in lower income groups as compared with those in the higher income groups.

One way of equitable distribution of income is to provide gainful employment for all. While the affluent countries are not free from certain degree or type of unemployment, under-employment or disguised unemployment are said to be chronic in all underdeveloped countries. Thus, the traditional sectors, like agriculture and rural industry, are supposed to suffer from over-population or population pressure. In other words, there is a removable surplus population in agriculture. Even if some labour force were to be removed from agriculture, it would not necessarily reduce production. Economists explain this by stating that in such a situation the marginal product of labour is zero. Even though all the members of the community may apparently seem to be engaged in some activities, these are not necessarily fully productive.

Typically, in such a situation, there is a flow of surplus population from the countryside to the cities in search of employment. The cities exhibit the phenomenon of surplus population in the form of crowded slums, casual workers, vagrants and other elements of floating population. Provision of gainful employment to such people becomes a primary objective of planning itself.

Thus, the goals of planning may be expressed in terms of growth of gross national product, increase in per capita income of people belonging to lower income groups, and provision of additional employment opportunities.

Gainful employment for all

Normally, employment is considered to be a by-product of economic activities. However, the employment generated by an economic activity would depend on how much capital intensive or labour intensive it is. More labour intensive the techniques of production, greater would be the employment opportunities that would be generated. The opposite view regarding employment-output relationship is to look upon provision of gainful employment to idle manpower as the principal strategy of increasing production. Thus, instead of looking upon employment as the function of output, output itself is considered to be the function of employment.

The aggregate targets regarding output, income, employment and their distribution cannot be fixed in a vacuum. If they are to be realistic, they must be connected with the economic happenings of the past and expected trends of the future. It is these which provide the basis of forecasting and planning. Forecasting is the indispensable preliminary to any plan. It establishes "probable upper and lower limits of expansion" and the main hypotheses and alternative models of development.

Economic forecast

Assessment of the present for planning of the future is especially important where the economy is not fully socialised. In a socialist economy based on collective ownership, the State has powers of compulsion which enable it, when fixing its objective, to pay more attention to technical considerations than to spontaneous economic tendencies; whereas in a western style economy, the authorities make careful study of the present behaviour of individuals, firms and groups, discover how the economy is developing on its own and prepare a general framework. Then and then alone do they draw up the Plan. Analysis and forecasts of spontaneous economic behaviour are considered significant for planning in western countries. Dutch and French forecasts are typical examples. In France, these analyses and forecasts provide a wide range of information on technical and economic topics with particular reference to economic forecasts of possible growth and provide the basis for government's general instructions for the preparation of the plan, which provide a framework into which the modernisation commissions must fit their efforts so that the plan shall hold together.

Sectors of planning

From the aggregate rate of growth or the growth rate for gross national product, it is necessary to derive subsidiary rates of growth for different sectors of the economy and ultimately for different goods and services. As suggested by Prof. Colin Clark, the economy can be divided into three principal sectors, primary, secondary and tertiary. But these again are broad categories and the planners find it necessary to work out figures of growth rate in a more detailed manner for a larger number of sub-sectors in which the economy is divided. Thus, the primary sector has to be divided between agriculture, mining, forestry, animal husbandry, horticulture and fishery. The manufacturing sector is divided between large industry, small industry, cottage industry, agro-industries, consumer industry, machine industry, basic industry, etc. Similarly, the tertiary sector is divided into sub-sectors like trade, transport, banking, insurance, etc. In addition to these is the infrastructure sector consisting of items like roads, health, education, irrigation, electricity, etc.

Besides, the various sectors in which the domestic economy is divided, the planners identify export as a separate sector.

Some of these sectors may be leading sectors while others may be lagging sectors. For the leading sectors, the rate of growth would be more than the aggregate growth rate, while for the lagging sectors it would be little less. Which sector would be leading and which would be lagging would depend upon potentialities of each sector.

These sectors, however, are not independent of each other or of the economy as a whole. There is an inter-industry relationship or economic relationship between the various sectors. Thus, agriculture provides inputs for industry and trade while the latter provides inputs for agriculture. The growth rate of each sector is dependent on certain specific inputs which are outputs of other sector.

Input-output tables

The entire picture of growth rates of various sectors is exhibited by the planners in terms of an input and output tables in which the horizontal column would indicate the output of the sector which constitutes its contribution to various other sectors of the economy while the vertical column indicates the inputs to that sector from the rest of the economy.

The input-output table is an indispensable tool of economic planning. Because it is this which ensures consistency in planning. In the absence of the detailed calculations which go in the input and output table, the growth rates fixed for each sector in isolation, would not be realiseable since they will suffer from deficiencies in various inputs.

The sectoral output targets also provide the pattern of sectoral investment. The pattern of inter-sectoral investments is supposed to reflect the priorities in planning. Thus, a higher allocation of investible resources for agriculture as compared with industry and trade is supposed to indicate according higher priority to the former. This, however, would be a crude and even an incorrect way of understanding planning priorities. In the first instance, pattern of investment has to be compared with the sectoral pattern of the economy as a whole as well as growth potentialities of various sectors. Moreover, while the concept of priority may seem to indicate a competitive inter-industry relationship between the sectors the input-output tables would seem to emphasise the complementarity between the sectors and the need to ensure consistency amongst the inter-sectoral targets.

There has not only to be an internal consistency in the productive system but there should also be consistency between the final mix of goods and services and the pattern of consumer demand. The consumer incomes themselves arise out of the production system but the composition of consumer demands for the various goods and services is a matter of consumer choice. In an economic system, where the prices reflect the interplay of the forces of demand and supply, any inconsistency between the pattern of consumer demand and the pattern of production would lead to excessive prices for goods in short supply and fall in prices for goods in excessive supply. Where, however, prices are fixed by the planning authorities, this inconsistency would show inself in the shape of non-availability of commodities with deficit production and over accumulation of stock of surplus commodities. In both the circumstances, reappraisal of the plan targets become necessary.

While plan must attain consistency between production mix and demand pattern, it may well seek—indeed it may be its specific objective to alter the pattern of demand itself in order to put in the hands of the poorer sections of the community more purchasing power and create more effective demand for goods of individual and collective consumption, such as mass consumption goods like food and clothing and social services like education, health, working class housing, and welfare services. The content of the GNP is more important than merely its size. This is the strategy adopted for the Fifth Plan called the strategy of direct attack on poverty. The realignment of demand is brought about by employment generating investment in work projects and labour intensive enterprises.

Capital resources

The growth targets have also to be consistent with the resources—natural, manpower and monetary—available for planning. One of the key resources is capital. Once the output targets are determined, the capital resources required for the plan can be computed on the basis of the capital output ratio. This is a well-known tool of economic planning. However, many economists have doubted the reliability or stability of the capital output ratio or its suitability as a tool of economic planning. Besides, the capital-output ratio need not be taken as a datum. It may be altered by deliberate choice of plan policy as to

the technology of production. A capital intensive technology would demand higher capital-output ratio while a deliberate policy of promoting labour intensive technology may justify an assumption of lower capital-output ratio. Indeed, it may be argued that there can be no capital output ratio for the economy as a whole nor would it remain stable for the entire plan period. In spite of these, several qualifications regarding the use of the ratio, in practice, it has been found useful as a tool for working out requirements of capital for the economic development plan. The appropriate capital-output ratio would depend not only on the existing methods of production but also on policies regarding the promotion of production techniques—capital intensive versus labour intensive. In under-developed countries, where capital is scarce but manpower is idle, adoption of capital intensive technology in the name of modernity may be entirely inappropriate. Intermediate or labour intensive technologies will be more appropriate. Adoption of such technology may justify the assumption of low capital output ratio for assessing capital requirements. On the other hand, temptation for spectacular enterprise, and capital intensive modern technology is bound to consume more capital and provide less employment than warranted by unrealistically low capital-output ratios.

Rate of savings

The capital requirements for investment targets of the plan have to be found out from the economy itself and, therefore, have to be consistent with the rate of savings. Savings are a function of income and propensity to save. If enough savings cannot be generated to raise capital resources on the basis of existing income and propensity to save, then either the plan has to be pruned or savings augmented by increasing the propensity to save or else the domestic savings may have to be supplemented by foreign aid. The propensity to save can be increased by re-distribution of income or by influencing consumer preference. Savings can also be increased by increasing the rate of interest. The obverse of propensity to save is propensity to consume. When standard of consumption of the masses is already low, there is little scope for savings and hence the burden of raising resources has necessarily to be borne by the upper layer of well to do people in the society and since this is a very thin layer, the scope for capital formation in a poor country is strictly limited. Any attempt to force savings on people whose consumption standards are abominably low may lead to tension and strife. Plan aimed at growth has to be reconciled with the need to provide a minimum level of individual and social consumption to the masses. The hope for immediate increase in the consumption standard can itself be the greatest spur to plan effort. The "resolution of rising expectation of masses" has made all the more acute this tug of war between consumption and saving. Forced savings may be possible in a totalitarian economy. But even there, consumer resistance will manifest itself in many forms. In a system of democratic planning, planners will do well to curb their enthusiasm for a higher growth rate by heeding to the wise advice of W. Arthur Lewis ; "Deficiencies of centuries cannot be mad[e] good in a single decade."

Manpower

Another necessary input of planning is manpower—specially the skilled manpower. Manpower budget f[or] various sectors will have to be prepared and adequat[e] infrastructure generated to produce the manpow[er] needed. This requires long range planning. Requir[e]ments of skilled manpower of various categori[es] should be projected several years ahead and measur[es] adopted to ensure adequate supplies.

The essence of planning methodology and economi[c] arithmetic that goes with it is, therefore, to provid[e] for consistency—consistency between the aggrega[te] growth rate and the sectoral growth rates, betwee[n] investment and output, between savings and inves[t]ment, between manpower and growth rate, and bet[w]een output and consumer demand.

In a market economy, mutual consistency is attaine[d] through pricing. In a planned economy, it is attaine[d] through the techniques of input-output tables an[d] material balances. These, however, need to be revise[d] as assumptions alter. Planning, therefore, is rightl[y] called a process of successive approximation. If th[e] pricing signals are available to the planner, they coul[d] be used for realistic revisions in plans.

The plan, however, does not merely consist of th[e] growth rates, input-output tables, material balance[s] or figures regarding savings and manpower. It is n[ot] just an exercise in economic arithmetic with mutuall[y] consistent figures. It also consists of policy measur[es] necessary to ensure that the growth rates and targe[ts] are, in fact, accomplished. This is more so when th[e] economy is not entirely socialised and the fulfilme[nt] of targets depend on independent and voluntary dec[i]sions of private entrepreneurs. In the field of agricu[l]ture, the private entrepreneurs consist of thousan[ds] of small farmers. It is the behaviour of small uni[ts] of production that has to be influenced by the pla[n]ning authorities The plan, therefore, has to consist [of] series of measures institutional, physical, fiscal an[d] monetary to attain the plan targets.

Selectivity in sectoral target[s]

Nor would the plan exercise be complete by fixi[ng] sectoral targets. These in turn have to be broken u[p] for various commodities and services and finally i[n] terms of individual projects which are both technicall[y] feasible and economically viable.

There is, however a limit to which detailed plannin[g] could be attempted for every possible commodity an[d] service. Certain amount of selectivity is inevitable. A[s] Bauchet points out "... a distinction must be draw[n] between basic products and services and almost infini[te] variety of manufactured goods. In the case of th[e] former, the programme must be carried out, und[er] pain of endangering growth objective. In the case [of] latter, a certain flexibility is possible, even desirabl[e] and products may be substituted for one another [in] the light of price trends and consumer preferences

In the former category must be included electricity, iron and steel, coal, cement, agricultural machinery, transport, etc. However, apart from such "highly concentrated branches of strategic importance, it will be unrealistic to attempt to draw individual firms in the system of planning" without making it very unwieldy.

It has been noticed sometimes that while plans are prepared on the basis of elaborate exercise of input-output tables, material balances or linear programming, no attention is paid to the preparation of sound projects. As a result, the plan only retains the character of theoretical and econometrical calculations which are of very, limited degree of reliance, since the basic statistics and information on the basis of which plan calculations are made are themselves highly doubtful. Thus, the assumptions regarding capital-output ratio or propensity to save or input-output calculations are just guesstimates! Plans made on such basis would not stand the touch of reality. In any case, without sound propects the plans themselves cannot be translated into action.

It is, therefore, suggested that the plan methodology itself should consist of compiling economically and technically sound projects into plans rather than working out aggregative plans without facts. Woolfgong Stolper, on the basis of his Nigerian experience, has dismissed ambitious aggregative plans as planning without facts.

Such "planning without facts" based on esoteric economic exercises of an aggregative nature, reflecting the high-faluting ambitions of the powers that be can lead to a disastrous waste of scarce economic resource. One of many such instances in underdeveloped countries is from Ghana—"Ghana is saddled with a nuclear reactor which some members of the new Government did not even know about when they came to power; it has huge cocoa silos that stand empty, unfinished and useless, it has a glass factory and two years of stock of imported glass; it has a steel mill designed to work on scrap in a country that does not produce scrap, it has Africa's longest aircraft runway built for heaven knows what purpose at Tamele in the Far North; it has a fishing fleet not yet paid for and losing money even before it is commissioned and it has sugar factories not located near any viable sugar plantations."

India's first Five Year Plan was based on a compilation of post-war reconstruction project rather than on aggregative calculations and it turned out to be a much greater success than the successive five year plans. Stolper recommended a plan based on projects to the Nigerian economy.

Facts needed for aggregative planning cannot be had for the asking; they have to be based on painstaking surveys both technical and economic. They include geological survey, mineral prospecting and market analysis. Till these are sufficiently comprehensive and reliable so as to provide facts needed for aggregative planning, it might be much better to go on the basis of approach of the preparation of sound specific projects. □

(Next issue : The spatial planning)

Green cards for family planning acceptors

THE KARNATAKA GOVERNMENT has introduced green cards for family planning acceptors. These cards will be issued to the acceptors of "terminal method" of family planning having two or less number of children.

The green card will contain the identification particulars of acceptors, like details of sterilisation, socio-economic status, age, sex and names and number of children. Certain medical facilities and other benefits will be provided to the green card holders whose monthly income does not exceed Rs. 1000. These concenssions include free medical treatment, supply of drugs and medicines, laboratory investigations, X-ray facilities and free provision of beds and diet as in-patients in Government hospitals.

Yet another step relates to monetary incentive to those who undergo sterilisation. Earlier, each sterilised person was entitled to Rs. 100 as incentive money. This amount is reimbursed by the Central Government. Now the State Government will pay Rs. 50 more to every person opting for sterilisation from its own funds. □

Saga of Honapura

THERE WERE ABOUT 600 households in Mazlisidihal, a village in Hukkeri Taluka of Belgaum District. One morning in March 1975, all the villagers were asked to vacate the village because it was to be completely submerged with the completion of Hidkal Dam on the Ghataprabha river.

About 350 families moved 150 km away to an uncultivated forest land, measuring about 830 acres Thus started a new village called Honapura.

The Honapura settlement now covers an area of 80 acres, 20 acres are under a water pond. Almost 700 acres are under sugarcane and paddy cultivation. The layout of village has been planned with provision of broad lanes.

Out of 350 families, 81 belong to scheduled castes and tribes, and six are Muslims. They all own 2 to 5 acres of land, though they had owned much more in their former village.

The Malaprabha Grameena Bank, set up in 1975, helped the villagers to get their 'saguvali' chits from Revenue authorities to acquire their ownership rights.

The bank also extended financial help to villagers to buy milch cattles and bullock-carts and to dig irrigation wells with pumpset. Many villagers took loans from the bank to set up petty trades.

A community sprinkler irrigation project taken-up by a group of 21 farmers deserves special mention. Under the project 3 bore wells equipped with submersible pumpsets and a sprinkler set were sunk at a total cost of Rs. 2 lakhs to irrigate about 70 acres of land. □

Vasudev Bhat

Self-employment scheme benefits 2.4 lakh persons

OVER 2 4 LAKH PERSONS were benefited in 1983-84 under the Scheme for Self-Employment for Educated Unemployed Youth in the country. According to the latest reports, the banks have so far sanctioned an amount of about Rs. 400 crores to the beneficiaries under the scheme.

A number of states have far-exceeded their targets. Rajasthan with an achievement of 150.5 per cent topped the list. Himachal Pradesh touched 123.2 per cent. Punjab recorded an achievement of 122.4 per cent. Tamil Nadu achieved 121.4 per cent of its target.

The other States which exceeded the targets include Haryana, Assam, Madhya Pradesh and Uttar Pradesh.

Among the Union Territories, Pondicherry topped the list with an achievement of 92 per cent followed by Mizoram (78%) and Andaman & Nicobar Islands (66%).

Under the scheme a composite loan upto Rs. 25,000 is given to the unemployed within the age group of 18-35 for setting-up industries, services and small business units. A capital subsidy of 25 per cent of the loan sanctioned is provided by the Central Government to the lending banks. The scheme was announced by the Prime Minister, Smt. Indira Gandhi, on August 15, last year. □

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India's first nuclear reactor commissioned

INDIA'S FIRST NUCLEAR reactor using Uranium-233 became critical at the Bhabha Atomic Research Centre, Trombay in Bombay recently. The reactor went critical with about 500 GMS of U-233. The approach to criticality was as predicted by theoretical calculations.

U-233 is a man-made fissile isotope of uranium produced by irradiation of thorium in a reactor. It is then chemically separated just like Plutonium-239 is produced from Uranium. This material has been produced at Trombay using the research reactor Circus and the reprocessing plant.

The BARC nuclear reactor is a unique one, in the sense that it is the only operational reactor in the world using U-233 as fuel. A solution of Uranyl Nitrate in light water is used both as fuel and as moderator. The reactor configuration is optimised for minimum critical mass using Beryllium Oxide as reflector and a Zircalloy core vessel. Due to the Alpha activity of the U-233, the entire system is enclosed in glove boxes and the solution transferred to the core vesssel using a peristaltic pump. The safety system was built around the Purnima facility using reflector drop and control blades as safety mechanisms. It may be recalled that the Purnima Reactor went into operation in 1972 using PUO_2 as fuel.

The long range programme for nuclear power in the country is expected to be based on conversion of Thorium to U-233 and its use in thermal or fast reactors. The research programme in BARC has concentrated on problems associated with the fabrication, irradiation and reprocessing of Thorium and the experimental Neutronics associated with the use of U-233 in Reactor system. □

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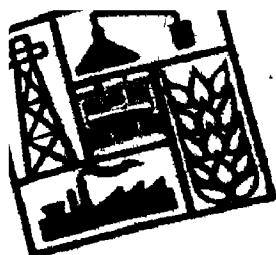
The spatial planning

NEXT ISSUE

August 15 Special

Indigenous technology for fertilizer production

INDIA HAS ACHIEVED considerable progress in the acquisition and development of indigenous know-how in the field of chemical and fertilizer industries.

The public sector consultancy organisations, namely, Projects and Development (India) Ltd. (PDIL), FACT Engineering and Development Organisation (FEDO), and Engineers India Ltd. (EIL) have acquired capabilities for preparation of detailed feasibility studies, detailed engineering, procurement, including inspection and follow-up erection and commissioning of plants.

PDIL has been selected as the prime contractor for the 600 tonnes per day ammonia plant at Namrup in Assam. The company is also associated with the construction of ammonia plants of the Thal Fertilizer Project and urea plants at Thal and Hazira. A number of catalysts required for the manufacture of fertilizers are also now produced by PDIL on the basis of their own technology.

FEDO is associated with the construction of ammonia plants of Hazira Fertilizer project. Over the years, the country has developed wide and diversified industrial base geared especially to meet the specialised requirements of the fertilizer industry such as high pressure vessels, compressors, pumps and heat exchangers. □

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Editorial Office : Yojana Bhavan, Parliament Street, New Delhi-110001. Telegraphic Address : Yojana New Delhi, Telephone : 383655, 387910, 385481 (extension 402 and 373).

Our Contributors

Pranab Mukherjee—Union Minister of Finance, New Delhi; **Mohammed Fazal**—Member, Planning Commission, New Delhi; S. Samarapungavan, Chairman, Seel Authority of India ltd., Delhi; **Vasant Sathe**—Union Minister of Chemicals and Fertilizers, New Delhi; **M. Rama Rao**—AIR Correspondent, Hyderabad; and **P. R. Dubhashi**—Director, Indian Institute of Public Administration, New Delhi.

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Focus on public sector

PUBLIC SECTOR today occupies the central place in the economic and social development of the country. It almost covers all the vital areas of the economy.

The number of public sector enterprises (PSEs) run by the Central Government has risen to 223 in 1983 from a mere five in 1951, when the planned development started. The investment in them has increased to Rs. 30,039 crores from Rs. 29 crores during the last 32 years.

Besides these undertakings, we have several public enterprises under the state governments and also public utility services like railways, communication, Posts and Telegraphs with huge investments.

After having attained a record profit in 1982-83, the public sector has somewhat slipped in 1983-84. A lot of public interest has generated in the last few years in the matter of their functioning. People are keen to know as to why sufficient returns are not forthcoming in spite of massive investments made in this vital sector. What are the problems the PSEs are facing? What are the constraints under which they are functioning? Have they achieved the objectives which were set for them? How could their functioning be improved? What, after all, is wrong with them? These are some of the questions which arise when the subject of public sector functioning comes up for discussion.

It is in this context that the delibrations of a two-day conference of chief executives of public sector undertakings held recently in New Delhi will be of interest to our readers.

In his opening address, the Union Minister of Finance, Mr. Pranab Mukherjee, asked the public sector to generate sufficient return. "Economic viability must be the principal test for the survival of an enterprise", he said.

Timely action

A clear appreciation should emerge of the need for performance upgradation, whether in the area of project management or production management. It should be possible to overcome the external factors like inadequate availability of power, transport bottlenecks etc, by initiating timely action in the organisation.

Emphasising the need to create surplus generation of resources for further growth and development, he said, reliance on price mechanism for this purpose without adequate attention to control and monitoring for optimum utilisation of investment would be counter-productive beyond a point.

Pointing out to the phenomenon of time over-run leading to cost over-run, Mr. Mukherjee said the whole viability of a project got eroded due to time delay and cost escalation. "A consciousness should permeate all round to see that the projects are implemented according to schedule."

Inventory control

He wanted the public sector undertakings to cut short the cycle time for turn around of capital. Inventory control is a must, otherwise "capital gets locked up, interest burden gets added and inventories carrying cost mounts", he said

Referring to the industrial relations, he said, the main duty of the management as well as labour was to strive towards realising their organisational goals. "Sharing the gains is a well accepted international practice. One can understand the system of collective bargaining, but what one witnesses in public enterprises is not collective bargaining but competitive bargaining. There is a constant quest to get more and more based on external considerations. Pay increases every four year or so without increase in production and productivity cannot go on. From 1970-71 to 1981-82, the per capita emoluments of Public Sector employees had risen by 196 per cent while the consumer price index had gone up only by 140 per cent. In some enterprises, the value added per man month is less than the average monthly emoluments per employee. This is not a healthy sign." One of the major causes for industrial unrest is the demand for wages and perks without due appreciation of the nature of industry, environmental conditions, such as capacity to pay by the organisation concerned, etc. Any demand for wage for salary increase has to be backed by proposals for improvement in production, productivity and profitability. A clear linkage needs to be established," he added.

In his address to the chief executives, the Minister of Planning, Mr. S. B. Chavan, said that the country was at the threshold of a take-off stage where productivity meant prosperity. An immediate pay off from higher productivity was better utilisation of existing capacities. It took greater ingenuity and perseverence to get more out of existing capacities at the margin than increasing production by creating new capacities. A sustained productivity drive for two to three years would result in magnitude of savings which would be more than half of the central budget.

Mr. Chavan wanted that a lot of attention should be given to project management. A project properly conceived, formulated and executed, was an insurance for healthy growth, he said.

Pointing to the need for inventory management, he said, the cost of carrying inventories was more than 20 per cent of the value inventories. If the total inventory, which amounted to Rs. 10,000 crores in 1982-83, could be reduced by 10 per cent, it would result in the release of Rs. 1000 crores for additional investment.

Need for corporate plan

Mr. Mohammed Fazal, Member, Planning Commission, said that an industrial or commercial undertaking, must retain its commercial character and fulfil the basic commercial obligations. The top management must possess and develop the capacity to take decisions even under conditions of uncertainty. But the objectives of the concern should be clearly spelt out as the most efficient manager might not be able to deliver the goods, if the objectives of the company were not clearly defined. At present, he said, the objectives of individual public enterprises were too general and overlapping to provide guidelines for specific undertakings with varied character and environment.

At the level of the individual company, effectiveness standards could be set only within the framework of a corporate plan, through which an undertaking could hope to serve the twin requirements of external accountability and internal control. In addition, the corporate plan provided a plan of action and a framework in which the preformance of the undertaking could be judged.

He wanted the management to reduce considerably the unit cost of production of manufactures, goods and services. The capital cost of Indian projects were always pitched much higher than that of a similar project in a developed country. With the judicious use of technology and careful examination of various components of capital equipment, the cost of capital investment in hardware of a project could be suitably reduced, he said.

He expressed his concern as to why cost overruns of projects were between two times to approximately six times of the original cost, and time overruns were 40 months to 150 months of various types of projects in the country. He said there was a need to revolutionize the building and plant assembling industries to ensure quick project implementation.

Mr. Fazal said the principle of accountability of the chief executive in a public enterprise to the government and Parliament would need proper definition. Management should be held responsible only for the total performance of the company and not for individual day-to-day decisions of the management. Too much concerns about the details of operations of a company and various decisions made at different levels could be counter productive. This could result in diluting even the sense of overall responsibility of the companies.

Accountability could not be effective unless the companies had considerable delegation of powers and they in turn sub-delegate authority at different levels of management. It would be necessary to define and demarcate clearly the role, duties, and responsibilities of the Minister in-charge Secretary of the Ministry concerned, and the Chief Executive of a public sector company.

He also wanted to give attention to the question of managerial compensation. The salaries of managerial personnel in public sector were low. Taking into account the considerable responsibilities they were carrying, and also the prevailing salaries for comparable positions in the private sector, it would be absolutely essential to fix managerial salaries in public sector on more realistic and practical basis.

Motivated propaganda

Mr. Mohammed Fazal said that due to deep rooted bias and motivated propaganda, public sector had been used as a convenient 'whipping boy'. There had been from time to time in different fora an undeserved damnation of the entire public sector. Such an attitude had to change, he added.

In his address, Mr. S. Samarapungavan, Chairman, Steel Authority of India, pointed out that the traditional methods of financial appraisals of public sector undertakings would not be fair if such an assessment was limited to profitability aspect alone, ignoring the contributions made by them in discharging their socio-economic objectives.

Aspects like development of backward areas, providing public utility services at subsidised rates, selling basic inputs or products at administered prices, providing medical, educational and housing facilities to employees etc. also needed to be taken into account However, the public enterprises collectively had uniformly shown gross profit to capital employed at rates varying from 6.33 per cent to 13.05 per cent over the last 10 years.

He also pointed out that almost always, the public sector industries had to operate within the control and administered output price when selling was easy. Since volume of output in key and core sectors could not be raised quickly, the generation of surplus was not high in public sector industries even when demand was adequate.

(We carry here some of the key note addresses made at the conference, which provide a comprehensive focus on the public sector).

—Editor

A critical appraisal

Pranab Mukherjee

Emphasising the need to create surplus generation of resources for further growth and development, the author cautions the public sector not to rely on price mechanism for this purpose as it would be counter productive beyond a point. Moreover, economic viability must be the principal test for the survival of an enterprise, he adds.

MASSIVE INVESTMENTS have been made and continue in the public sector, which is truly a People's Sector. Sufficient returns must come out of the investments made. The public sector after having attained a record profit in 1982-83 has somewhat slipped back in 1983-84. There are also 'lame ducks.'

I had stated in my budget speech this year that the time has come to undertake a careful review of the performance of sick units in the public sector with a view to reducing the drain on our resources. I also emphasised that economic viability must be the principal test for the survival of an enterprise.

Organisational excellence

Organisational excellence is the result of harmonious management and labour effort. It is a collective endeavour in which both the management and workers have their respective roles to play, to improve the performance of the public owned enterprises. The concern of both should be how best the national resources could be optimally utilised, to get the best result in terms of output, quality and cost. Through effective in-house efforts, performance upgradation to a significant level is certain, provided there is a spirit of loyalty and participative management in the organisations.

Efficient utilisation of plant and equipment, energy use, material utilisation, improvement in management practices, systems and procedures, work methods, evolving appropriate marketing strategy, are all actions which fall within the domain of in-house efforts. Even certain external factors like inadequate availability of power, transport-bottleneck, etc., which adversely affect the operations can be overcome by initiating timely action in the organisation. In other words, organisational excellence can be predicted when there is greater awareness of actions to be initiated within the organisation.

Surplus generation

Assessment of excellence often tends to become subjective in the context of multiple objectives placed before the public enterprises. It is recognised that an omnibus set of criteria cannot be applied indiscriminately for purposes of evaluation. More often the focus on performance is diffused. Lack of performance and non-performance get attributed to the diverse objectives—whether it is regional development upliftment of backward classes, provision of goods at subsidised rates and so on. The emphasis on profit earning therefrom gets lost. One has to draw a line somewhere. Surplus generation is essential for further growth and development. The growth and development of an enterprise which is unable to generate sufficient resources would be jeopardised. Reliance on price mechanism for this purpose without adequate attention to control and monitoring mechanisms for optimum utilisation of resources, including cash, would be counter productive, beyond a point.

One has to recognise that we are operating a system of mixed economy in which both public and private sector enterprises operate on a competitive basis in a number of sectors. I agree that extraneous factors which affect the performance levels need to be given necessary weightage in the matter of evaluation. For instance, if an enterprise has been set up as a conscious decision of the Government in a backward region, naturally one cannot expect that particular enterprise to operate with commercial profit. The concept of social profitability no doubt would be applicable in such cases and proper weightage for the

social objective which gets fulfilled could be given. An evaluation of the performance following from objective criteria should establish good and bad performance levels. The most important consideration is a clear appreciation of the need for performance upgradation.

Avoiding cost escalation

One witnesses very often the phenomenon of time over-run in the PSEs leading to cost over-run. The whole viability of a project gets eroded due to time delay and cost escalation. All the projections go away. This situation cannot be allowed to continue in the midst of our scarce resource and balance of payment position. A consciousness should permeate all round to see that the projects are implemented according to schedule. In our observation, the problem of delays could be tackled successfully at the site, if the management is alert to the need for completion of the project on time. Any procedural improvement to expedite the completion of the project can certainly be considered by the Government.

Profitability of an enterprise substantially depends on how efficiently the whole gamut of activities—purchases and timely use of materials and turn-out of finished goods takes place. In other words, the cycle time for turn around of capital should be as short as possible.

In a number of enterprises we come across instances where inventories which would meet the requirement for a number of years are stored. This completely erodes the economy of the enterprises. Capital gets locked up, interest burden gets added and inventory carrying cost mounts. All these flow from unused inventories.

Industrial relations

Proper industrial relations climate is essential for a successful running of any organisation. A motivated work force could help in achieving the objectives set for the organisation. The main duty of public sector management as well as labour is to strive towards realising their organisational goals.

Sharing the gains is a well accepted international practice. One can understand the ssytem of collective bargaining, but what one witnesses in public enterprises is not collective bargaining but competitive bargaining. There is a constant quest to get more and more based on external considerations. Pay increases every 4 year or so without increase in production and productivity cannot go on. From 1970-71 to 1981-82, the per capita emoluments of Public Sector employees had risen by 196 per cent while the consumer price index had gone up only by 140 per cent. In some enterprises, the value added per man per month is less than the average monthly emoluments per employee. This is not a healthy sign.

One of the major causes for industrial unrest is the demand for wages and perks without due appreciation of the nature of industry, environmental conditions, such as capacity to pay by the organisation concerned, etc. Any demand for wage or salary increase has to be backed by proposals for improvement in production, productivity and profitability. A clear linkage needs to be established. Sharing the gains would naturally flow from surplus generation.

I do also believe that industrial relations climate would improve by participative management. On the eve of new year, Government had announced a new scheme of workers' participation in management. The new scheme has to be practised with vigour in the Public Enterprises. The commitment to the philosophy of participative management has to come from both management and labour. More training programmes with case studies could be organised to demonstrate the benefits of participation where these have proved successful.

Performance upgradation

Basic to the philosophy of participation is the principle that the resources in terms of men, materials and machines need to be utilised in a coordinated manner to achieve desirable production of quality goods. There is under utilisation of the resources in some of the industries—fertilizers, non-ferrous metals, steels, etc. There is direct correlation between capacity utilisation and profitability. With performance upgradation, the public enterprises could enhance their contribution to the resource generation for economic development.

In the last Conference of Chief Executives of Public Enterprises, the Prime Minister emphasised that studies should be undertaken relating to the enterprises characterised by under utilisation of capacities in order to identify the problems and take remedial action. I trust the efforts under-way would help in improvement in capacity utilisation during 1984-85.

Goal setting is essential to strive for performance improvement. Can we say that at least 5 per cent more capacity utilisation during 1984-85 over the level of 1983-84 would be achieved by the enterprises which operate at less than 75 per cent of their installed capacities ? This is a modest aim. Similarly, quantifiable targets in areas of inventory control, cost reduction, and organisational improvements should flow as recommendations of this Conference.

I would like to end with what our Prime Minister had said at the last Conference—"Public Sector is not just industry, but it is an article of our public faith." She had cautioned that "of all slopes, complacency is the most slippery." These words need to be constantly kept in view. A duty is cast on all of you as captains of industries to ensure that the faith is kept alive. I trust that with renewed vigour and sustained efforts, the public enterprises as a group and as individual units would give a better account in the year ahead. □

Don't make it a 'whipping boy'

Mohammed Fazal

Calling for inculcation of commercial character in the public sector, the author says, the top management must possess and develop the capacity to take decisions even under conditions of uncertainty within the frame of clearly spelt out objectives of the concern. Besides, the principle of its accountability would need proper definition within the parameters of overall policy. Management productivity should improve to achieve excellence in performance for overall economic development, he adds.

ENSURING EFFICIENCY in management in both public and private sectors of the Indian economy, as also standards of quality of manufactures, goods and services, are areas which will need concerted attention. The highly protected nature of the Indian economy so far has been instrumental in sustaining low standards of management, and quality. Test of efficient management is to ensure production of goods, and services at the lowest possible costs, with highest quality, and competiveness in the world market. Efficient management has also to be judged whether it will ensure perpetuity of the company. It is essential that the public sector in India both under the Union Government and also the State Governments has to address itself to achieve these essential goods.

An industrial or commercial undertaking, even if it is in the public sector, must retain its commercial character and fulfil the basic commercial obligations. The top management in the public sector undertakings must possess and develop the capacity to take decisions even under conditions of uncertainty, and to implement them as speedily as possible in keeping with the objectives of the organisation.

Managerial effectiveness

What is of utmost importance is the fact that managerial effectiveness must be assessed in relation to the objectives set before the corporate body. Thus, the search for managerial competence logically leads to the successful realisation of the set objectives of the company. The most efficient manager may not be able to deliver the goods if the objectives of the company are not clearly defined. The public sector undertakings may be in many cases at a certain disadvantage in this respect.

In the private sector, the objectives to be achieved by the company are generally well understood. The manager in the private company is to promote and maximise profits and private gains, i.e. the business interests of the company he represents. The objectives of individual public sector enterprises are too general and overlapping to provide guidelines or specific undertakings with varied character and environment.

The Bureau of Public Enterprises organised a seminar on 'Performance Evaluation of Public Enterprises' in 1980. As a result of the seminar, it was recommended that keeping in view the need for achievement of the objectives of an individual public enterprise, specific performance criteria be developed and defined in respect of (a) corporate performance, (b) performance of the chief executive of the undertaking and (c) performance of project management. A beginning had been made in early 1982 in defining performance and financial targets of (a) capacity utilisation, (b) rate of return on capital employed, for each of public sector company for the next two years, i.e. 1982-83 and 1983-84. Various performance targets of each company will naturally need review and updating every financial year, taking into account the emerging role, and profile of each enterprise.

At the level of the individual company, effectiveness standards can be set only within the framework of a corporate plan. Only through a corporate plan can an undertaking hope to serve the twin requirements of

external accountability and internal control. In addition, the corporate plan provides a plan of action, a framework in which the performance of the undertaking can be judged. The need or such a system of performance budgeting is now being appreciated on a wider scale, but one may not be sure if it is really effectively adopted with a view to achieving the objectives of the enterprises in the Indian public sector. A good beginning on these lines has been made recently by public sector companies in the non-ferrous sector.

In the absence of a well worked out corporate plan, managerial effectiveness is adversely affected; in fact, there is also no objective norm to measure this effectiveness. Such a situation might even lead to distorted picture of the working of various enterprises. The top management might look efficient without being effective. This view may need illustration. A sound, technically viable project might get into serious trouble if adequate attention is not paid to the problem of cash flow. In an operational company, production may increase, capacity utilisation may be better, but the cash flow position may deteriorate if the higher production only swells inventories rather than sale. Or, the works in progress may increase showing a perfectly happy balance-sheet position without improving the flow of funds position. Thus, the short-term prosperity of the company may be achieved at the cost of its long-term health.

Reduction of production cost

As mentioned earlier in this talk, the management in both public and private sector in India should reduce considerably the unit cost of production of manufactures, goods and services. In fact this is an area of efficiency in which public sector management has to take strong action to improve matters.

Unit cost of production in India should definitely be lower than that for similar products, services etc. in a developed country. The reasons are quite obvious when one takes into account the wages of labour and supervisory overheads which may not be more than 15 per cent as in a developed country. The capital cost of Indian projects are always pitched much higher than that of a similar project in a developed country. Why should it be so when the component in terms of volume of work involved of labour and supervisory overheads can be approximately 30 per cent in any capital project. With wages which are so low as compared to a developed country, the labour and supervisory portion of the cost in a project should be appreciably lower in India.

At the same time, with judicious use of technology, and careful examination of various components of capital equipment, the cost of capital investment in hardware of a project can also be suitably reduced. The revenue cost of operating a project should also be much cheaper than that of a similar project in a developed country for the same reasons relating to low wages, as also low cost of raw materials. It should, therefore, be the earnest endeavour of all the managers in the Indian economy including those in the public sector to ensure, come what may, that the unit cost of production of any type of manufactures, goods and services in India was lower than that in a highly developed country. The advantage of cheap labour in the earlier decades in Japan was availed of by that country to make substantial progress in the economic development of Japan. In the present times, the same advantage is being taken by Republic of China, South Korea and Taiwan.

Indian managers have to exert themselves with a great deal of sense of adventure, managerial integrity and competence to fulfil these obligations of producing goods and services at competitive price, so that the Indian economy does not remain a high cost economy, and at the same time we are able to export competitively a large amount of production.

Why do costs rise ?

While talking of efficiency in controlling of project costs, we have also to feel concerned that why cost overruns of projects are between 2 times to approx. 6 times of the original costs, and time-overruns are 40 months to 150 months of various types of projects in the country ?

One of the main causes of considerable cost and time overruns of the projects in India are delay in civil construction and erection works at projects. Because of a monopoly market, civil engineering and erection contracting has not improved in India either in their methods or quality. There has been a sea change in these industries abroad. Heavy duty cranes with lifting capacities of about 900 tonnes are in use, assembled modules of 2000 to 2500 tonnes are hoisted and put in position at project locations, huge quantities of mixed cement, concrete are pumped in matters of a few hours into plant foundations, dams etc. We have thus an imperative need to revolutionise our building and plant assembly industries to ensure quick project implementation. This will be one of the major areas of achieving managerial efficiency, and in consequence, it will have a great bearing on the economic progress of the country.

Accountability needs definition

The principle of accountability of the chief executive in a public enterprise to the Government and Parliament would need proper definition. More than one expert committee has recommended that the management should be held responsible only for the total performance of the company, and not for individual day-to-day decisions of the management. It shall need continuous emphasising that ownership should not be confused with management, and that operations of a public sector undertaking should be under a climate of complete autonomy as far as the internal working of the enterprise is concerned.

Too much anxiety and concern on the part of the owners (which may be said to be in the shape of Parliament and the Government) regarding the details of the operations of a company, various decisions made within the company at different levels, can be counter-productive. This may indeed result in diluting even the sense of overall responsibility of the companies. Within the parameters of the overall policy framework, an enterprise should have full discretion and freedom to conduct its affairs without let and hindrance.

Accountability cannot be effective unless the companies have considerable delegation of powers and the companies, in turn, sub-delegate authority at different levels of management.

It may be suggested that once a decision is taken to include a certain project in the investment plan, the project authorities should be allowed to go ahead without any further interference. Similarly, once the specific objectives of a running enterprise are laid down, the chief executive should be called upon to account for only the overall performance rather than individual decisions of the management. To make this possible, it will be necessary to define and demarcate clearly the role, duties, powers and responsibilities of the Minister-in-Charge incharge, secretary of the Ministry concerned and the chief executive of public sector company.

Tenure of employment of public sector managers right upto top levels should be renewable contracts of 4-5 years; but if performance of any supervisor, manager or top level management personnel is not in line with the annual objectives of the company such persons be removed after giving due notice|pay as provided in the contract of employment. Reasonable tenure of employment together with the stipulation of adequate discharge of responsibility will make for an efficient management. Public sector managers, as also top managers may have renewable contracts of say 5 years period till the age of retirement, but the job of any incumbent can be terminated at any time with due notice as provided in the contract of employment, if the performance is not satisfactory.

Productivity of management

The productivity of the top management is the sum total of the efficient team work provided by the personnel of the undertaking at various levels. Strong motivation at all levels will be generated only when there is a sense, and conviction of participation in the operations of a company amongst workers, supervisors, managers and senior management. For this purpose it should be a fundamental concern of the Board of Directors and top management to introduce, and practise participative management in public enterprises. Such a participative management should be on the one hand between all levels of management from the supervisors to the top levels of management on the other hand between management and workers. Such a scheme will need continuous nursing and monitoring so that its effectiveness is ensured.

One of the important factors of managerial efficiency is how knowledgeable are the managers, at various levels, in the art of management, and how responsive they are to the social and cultural aspirations of all those who are working in an enterprise. A great deal of social and cultural cohesion is essential for an effective management. At the same time, the proper induction and continuous training of not only managers at all levels, but more specifically of the senior and top management is absolutely essential. It is usually taken for granted that senior and top management have the desired awareness of how to manage the organisations under them.

One of the basic needs of the successful operation of a company is how much resources the organisation is generating for reinvestment, what net profit it is making, and various other financial aspect of the operations of the company. And yet considerable ignorance does prevail in the awareness, and proper acquisition of knowledge of financial management generally in various types of companies.

A study was made some years ago by an important organisation in a highly developed country of the operations of the public limited companies in that country. One of the major conclusions which was highlighted in this study was that majority of Chairmen and Managing Directors in industry in that country did not know how to appreciate a balance sheet. What can be true of that country which is one of the oldest industrial societies in the world, can be still more valid in India. It would appear imperative that very strong measures should be undertaken for training of supervisors, managers, senior managers, etc. at different levels of enterprises under properly organised short-term induction and training programmes.

At the same time, there is an urgent need for identifying senior managers who are ripe for consideration for top management positions in the board level, and for position of chief executives in companies. These persons should be put through an intensive and short-term training programme of say four to six weeks, in various aspects of management with a strong bias on financial management, use of computers and marketing management. The Bureau of Public Enterprises or any other coordinating organisation may make a list of such personnel and draw up an effective programme, and efforts should be made to complete training in this manner of all the senior managers, as defined earlier, as early as possible, say within 2 years; and later on this can be a contiguous scheme for all such senior management personnel who from time to time are ready for consideration for board level and top positions.

In the absence of a body of senior managerial personnel who have been identified and properly groomed for board level appointments, there has indeed always been some sort of a scramble to choose board levels executives and top executives in public enterprises from within a very small pool of visible aspirants for these positions. It might possibly be correct to state that, by and large, in many cases there has been, perhaps unwittingly, shuffling of a limited number of persons to fill in various positions at these levels. Such a situation has to be corrected quickly, and arrangements, as has been stated earlier, should be introduced. It may be worthwhile in this context to consider, if instead of providing such short-term induction and training for board level and top level candidates at different institutions, a central institution of public enterprises for this purpose is set up.

Management motivation

Among measures for management motivation, and in consequence of managerial effectiveness will also be the question of managerial compensation. The salaries of managerial personnel in public sector are indeed

low, and taking into account the considerable responsibilities that are attached to various jobs and also the prevailing salaries for comparable positions in the private sector of the economy, it would be absolutely essential to fix managerial salaries in public sector on more realistic and practical basis. Almost all the companies in the public sector are registered as private limited companies under the Indian Companies Act. According to the Indian Companies Act which governs the organisational parameters, operations, etc. of companies, from time to time the Government fixes for the private sector maximum salaries, and other perquisites for board level appointments. Since both the private sector and the public sector are governed by the same Act, it should be possible to fix the salaries of board level and top level appointments in the public sector in line with those in the private sector, as determined by the Government from time to time. While the board level salaries in the private sector within the parameters laid down by the Government have to be approved in individual cases by the Minitry of Law and Company Affairs, in the case of public sector, a rule may be made that these salaries can be fixed by the administrative ministry concerned in consultation with the Ministry of Finance.

Salary structure in other managerial positions in the hierarchy could be fixed in a manner which may have some relationship with the top level remunerations and perquisites. In addition to the aspect of equity and suitable remunerations in the public sector, such an arrangement will also ensure that there is no flight of senior and top level managers from one sector to the other only because of considerable gap in remunerations, perquisites etc. between the two.

In addition to what has been stressed, one gets a feeling that there is a great need to enthuse the management of public enterprises to achieve the great goals for which public sector has been set up as a strong instrument of economic development of the country. Some of the major steps for improvement of management effectiveness in the public sector have been briefly mentioned, but another very important aspect is the overall psychological improvement within the public sector.

One of the steps in this direction should also be to ensure that persons working within the public sector do not provide a running critique against this sector. Those who do not believe in the role of the public sector should not join it. Unless there is commitment to an organisation, no good performance can be achieved.

Contribution of public sector

Public sector has so far contributed a great deal to the overall economic development of the country, and in fact, has been responsible for not only ensuring a reasonable degree of development of the economy, but also having effectively contributed to the defence of the Motherland at different times by turning out radar equipment, tanks, aircrafts, guns and various other armaments without which the country could not have been defended. In many cases due to deep rooted bias, and motivated propaganda, public sector has been used as a convenient 'whipping boy' and there has been from time to time in different forums a underserved damnation of the entire public sector. Such an attitude has to change not only by still better performance of the Public Sector, but also by the positive thinking of those organisations, who misguided as they might have been in the past, have been having a prejudiced approach towards the public sector. It has to be accepted that the public and private sector have both their own respective roles to play in the accelerated economic development of this country and there is no place for gunning of one sector by the other. Management improvement is indeed essential both in private and public sectors, if we have to achieve excellence in our performance for the overall economic development. In this task public sector has indeed a great role to play. □

Handloom export production projects

THE UNION MINISTRY OF COMMERCE has initiated necessary steps to take up new handloom export production projects, particularly in the hill areas of Uttar Pradesh, Himachal Pradesh, Jammu and Kashmir, and North-Eastern States. An outlay of Rs. 50 lakhs has been provided for this purpose in the current year, 1984-85.

Launched in 1975-76 these special export production projects are set up to produce high quality goods for catering to the foreign markets. Through them necessary organisational infrastructure with a package of assistance like supply of inputs, credit, marketing etc., are provided to the weavers outside the cooperative fold.

Since the inception, 21 projects each with 1000 looms have been sanctioned in the handloom centres throughout the country. These projects are being implemented by the State Handloom Development Corporations and are funded completely from the Central Plan. □

How should it be judged?

S. Samarapungavan

The performance of public sector enterprises should not be judged on the scale of profitability aspect alone, ignoring the contributions made by it in discharging its socio-economic objectives. Aspects like development of backward areas, providing public utility services at subsidised rates, selling basic inputs or products at administered prices, generating employment, providing basic amenities to its employees, should also be taken into account. A determined public sector management with functional autonomy is bound to improve its efficiency which is vital to the national economy, says the author.

PUBLIC SECTOR ENTERPRISES have been one of the major instruments used by Government ever since it embarked on a sustained policy of planned development. These have been established over the years in all the spheres required for industrial development.

The spread of public sector, industry-wise and region-wise, the sophistication of technologies employed by them, the employment opportunities provided and the level of management techniques employed, are as striking as they are significant for the future development of the country's economy. There are today 223 public sector enterprises (as on March 31, 1983) as against only five in 1951 when the planned development started. The investments in public enterprises have also risen from a mere Rs. 29 crores to Rs. 30,039 crores during the last 32 years.

The ten public enterprises with SAIL at the top, account for more than 50% of the total investments. While, the capital investment has increased around five times, the total gross turnover has increased over six-fold during the last ten years rising to over Rs. 41,000 crores during 1982-83. The gross margin has increased more than eight-fold during the above period rising to a record Rs. 5189 crores during 1982-83.

Apart from Central Government enterprises, there are over 500 enterprises owned and controlled by State Governments; though the average size of a State Government enterprise is smaller than that of the Central Government enterprises, they also do play a significant role in the economy of the country, and its development possibilities.

Why was it created?

In India, public sector was resorted to because of India's need to develop at a rate faster than what would have been possible otherwise, relying on public initiative and enterprise. A substantial amount of investment had to go for creation of infrastructural industries like power, steel, machine tools, etc. These were the areas where investment is large, gestation period is long and return on investment generally meagre. The consumer sector, by and large, has been left out for private entrepreneurship except in a few cases where Government has deliberately entered with a view to checking the upward rise of prices.

The public enterprises also include a large number of units which are taken over after becoming sick in private hands. Several public enterprises have come up in backward regions only because of the need for a balanced development of the country, though in several cases such locations have reduced their economic competitiveness.

Its objectives

It is now generally accepted in our country that the broad objectives of public enterprises are: to help in the rapid economic growth and industrialisation of the country and create the necessary infrastructure for economic development, to earn return on

investment and thus generate resources for development; to promote re-distribution of income and wealth; to create employment opportunities; to promote balanced regional development; to assist the development of small scale and ancillary industries; and to promote import substitution, save and earn foreign exchange for the economy.'

How has it performed ?

Against these objectives, let us have a quick glance at the actual performance of the public enterprises.

The public sector enterprises have significantly contributed to the growth rate achieved in the industrial production during the first four years of the Sixth plan. Public sector accounted for 97.9 per cent of coal, 100 per cent of lignite and petroleum crude, 77.8 per cent of saleable steel, 20 per cent of aluminium, 100 per cent of copper and lead, 84 per cent of zinc, 46.3 per cent of nitrogenous and 29.3 per cent of phosphatic fertilisers, 100 per cent of telephones and teleprinters during 1982-83. These items are the basic industrial goods needed for country's development.

Though, the annual rate of growth of turnover was not even during the last ten years, it averaged an impressive 23.22 per cent. The capital invested in public enterprises rose by 3.8 times during the last ten years and the peak investments had been in the key core sectors—Steel (Rs. 5149 crores); Petroleum (Rs. 3034 crores); Coal (Rs. 3268 crores); Mineral and Metals (Rs. 2639 crores); Chemicals, Fertilisers and Pharmaceuticals (Rs. 3819 crores) and Engineering (Rs. 2746 crores). The ratio of turnover to the capital employed also rose steadily during the last ten years to 158 per cent in 1982-83.

Financial appraisal

Coming to traditional methods of financial appraisals, making use of such tools as return on investments, it should be appreciated that it will not be appropriate if such an assessment is limited to profitability aspect alone, ignoring the contributions made by the public sector in discharging their socio-economic objectives. Thus, aspects like development of backward areas, providing public utility services at subsidised rates, selling basic inputs or products at administered prices, providing medical, educational and housing facilities to employees, etc. also need to be taken into account.

Nevertheless, the public enterprises collectively had uniformly showed gross profit to capital employed at rates varying from 6.33 per cent to 13.05 per cent over the last ten years. While, the gross margin to capital employed varied between 11.24—19.52 per cent, it is significant to note that during 1982-83, the public sector enterprises achieved the highest pre-tax profit of Rs. 1,545 crores after an interest burden of Rs. 1924 crores. The financial performance of the public sector enterprises, as has been already pointed out, should be viewed against the facts that public sector functioning in different segments of industry is facing divergent constraints.

Steel industry, for example, has been passing through the worst recession in the history. The pace of indigenous growth of steel demand has started slackening since 1982-83. To make situation worse 1.317 million tonnes of imported steel, including a spill-over of over half a million tonnes from the previous year, arrived during 1982-83. As a result SAIL was saddled with a total stock of 1.562 million tonnes of saleable steel as on April 1, 1983 (including IISCO).

The high interest on borrowed funds, mainly arising out of larger bank overdraft due to accumulation of stock of saleable steel as well as repayment of loan and interest to the Government, together with escalation of input costs, were the main reasons adversely affecting the working results of public sector steel industry.

During 1983-84, the emphasis was to improve liquidity and to reduce import of steel. The stock holdings were reduced by around 770,000 tonnes by various fiscal measures; such as, extension of credit facilities and price adjustments and making certain categories of steel available to domestic consumers at international price to help them boost their exports.

The emphasis on production of special and high value items has also been able to reduce imports to only 450,000 tonnes during 1983-84. The profitability however, can not significantly improve unless the increase in the cost of inputs are adequately taken care of. Mention also may be made of Kudremukh Iron One Company which though completed in a record time, could not start any significant production due to the failure of Iran to lift the concentrated ores.

Generation of internal resources

During 1982-83, there were 115 public enterprises generating Rs. 2270.83 crores of internal resources out of depreciation and retained profits. Admittedly this is not a very high figure compared to the investments. Considering the need for the units to be modernised, particularly in a situation when the prices of equipment as well as technology continue to be high, the importance of generation of internal resources in public enterprises cannot be over-emphasised. It should be, however, pointed out that almost always the public sector industries had to operate within the control of an administered output price when selling was easy. Since volume of output in key and core sectors can not be raised quickly, the generation of surplus was not high in public sector industries even when demand was adequate.

On the other hand, there had been a sizable contribution to the Central exchequer from the public sector. For example, a total of Rs. 5529 crores were contributed by the public sector during 1982-83. Steel industry in public sector alone contributed Rs. 936 crores during 1982-83.

Foreign exchange earnings

The total foreign exchange earned by the public sector enterprises during 1982-83 amounted to Rs. 4694 crores which was 70 per cent more than the

previous year's figure. Notable is the achievement of the consultancy and construction group of enterprises which have now increased their activities in the international field and have made considerable progress in procuring and executing foreign contracts worth over Rs. 469 crores.

For those goods where domestic market continues to be sluggish, like steel, vigorous efforts are being made to increase exports which will not only improve the foreign exchange earnings but will also help in improving capacity utilization.

By the end of 1982-83, public sector enterprises employed over 20 lakhs of people with an average per capita annual emoluments of more than Rs. 18,000. It may be pointed out that while the average All India Consumer Price Index had increased by 135 per cent during 1972—1982, the average emoluments for public sector employees had risen by 210 per cent in the same period. The public sector enterprises had by 1983, 18.3 per cent Scheduled castes and 8.4 per cent Scheduled tribes persons in their employment.

As a model employer, the public enterprises have been providing housing and welfare amenities to the employees. Almost all public sector enterprises have built townships with adequate educational, health, shopping and other recreational facilities. So far, 5.48 lakh houses have been built for employees and the amount spent on various welfare activities (other than capital expenditure) during 1982-83 itself was Rs. 378 crores. Several public sector enterprises have also contributed to the development of the area adjacent to their works or township by adopting villages and providing basic amenities like water, sanitation and hospital.

The development of ancillary industries started only since the beginning of the seventies. By 1982-83, there are 1176 ancillary units which had provided services worth more than Rs. 280 crores.

Issues and challenges

There is certainly ample scope to improve performance including profitability for the public sector enterprises notwithstanding the drag of social liability. It may be emphasised at this point that public enterprises differ so widely in their background, history of development and nature of goods manufactured and services rendered that it is impossible, and rather unwise, to use the same yardstick to judge their performance. For example, out of the 196 operating enterprises listed by BPE, 141 are producing goods varying from basic goods like steel, coal, petroleum to consumer goods and agro-products, and 55 enterprises are engaged in rendering services which range from trading and technical consultancy to tourism. There are, however, several common important issues relevant to the performance of public enterprises. These are elaborated below :

The single most important issue in the performance of the public sector units is the quality of internal management. The efforts for improvement have to be persistent and not sporadic spurts of remedial measures if the gains of good performance are to be consolidated and further improved upon.

The factors which are within the control and competence of public sector management themselves are—such as recruitment of proper personnel in keeping with the job description; avoiding overstaffing; rationalisation and review of procedures and decentralisation of powers; evolution of an effective and workable system of two-way flow of Corporate decision-making information; imparting stimulus to participative management; career development and training of marginal personnel and other employees; cost reduction; standardisation; scientific cost management; inventory control; maximisation of capacity utilisation; maintenance and upkeep of the plant and machinery, control over expansion activity; keeping the cost and quality consideration in constant view.

Co-ordination with other sister concerns in the public sector in regard to purchase and supply of inputs and outputs; developing a sense of competition of the market place; absorption, development, and innovation of new technology and above all preparation of corporate plans for further development. This list is long, but proper functioning of any enterprise, public or private, has to take care of these factors. For uniformity and continuity of efforts, it is desirable that the top executives of the public sector enterprises should not be frequently shifted.

A case for autonomy

Autonomy is very vital for the smooth functioning and development of public sector enterprises. Though autonomy without accountability is not advocated, what is required is extension of autonomy generously and purposefully with the prescription of accountability of a judicious nature and order, even in times of bad showing by a public enterprises. The presence of professional managers is also an essential pre-requisite of autonomy.

If the overall profitability of the public sector is to be improved the various financial parameters like capital structure, method of financing, pricing policy, etc. would need to be reviewed and set on sound logical base. Past rigid control on price had not yielded reasonable return on investment which is now throttling the growth of many industries. The equity/loan proportioning also needs to be rationalised for optimum returns.

One of the major problems in the public sector has been the inordinate delay in implementing a project. It is quite common that by the time a project is completed the actual cost becomes 100-200 per cent more than the original estimate leading to a situation which makes a viable proposition uneconomic. One of the major reasons for this dealy is due to endeavours towards maximum indigenisation. Since the equipment/parts are to come from different agencies which vary in their supply capabilities. Often supplies are inordinately delayed and difficult to coordinate. While self-reliance has to continue and indigenous industry has to be supported, there has to be a balance between timely supply of capital goods and equipment for projects and maximum indigenisation.

Performance during 1983-84

Yojana Correspondent

THE PERFORMANCE of Central Public Enterprises as a group shows a mixed trend in terms of improvement and decline in productivity as also profits and losses during the year, 1983-84.

According to the Planning Commission monitoring report on the performance of the 20-Point Programme under Point No. 20 relating to performance of Central Public Enterprises under Bureau of Public Enterprises, the turnover increased from Rs. 41984 crores in 1982-83 to about Rs. 46250 crores in 1983-84. The gross margin in 1983-84 also increased from Rs. 5189 crores in 1982-83 to about Rs. 5425 crores during 1983-84. The overal profitability after interest, tax and depreciation, however, shows marginally a negative picture. The profitability, in terms of gross profit to capital employed, shows decline from 13.05 per cent in 1982-83 to 10.66 per cent in 1983-84. One redeeming feature relates to the generation of internal resources, which is of the order of Rs. 3200 crores as compared to Rs. 2756 crores in 1982-83.

Physical performance

The performance of enterprises producing coal, lignite, aluminium, zinc, lead, copper, crude oil, crude throughout, cement, drugs and pharmaceuticals, engineering goods, consumer goods products, sucht as artificial limbs, condoms, opthalmic glass, newsprint, textiles, photo films etc., shows improvement during 1983-84 as compared to the corresponding period of previous year.

Fertilizer production in public sector in terms of 'N' as a whole shows increase from 1586 thousand tonnes in 1982-83 to 1660.5 thousand tonnes in 1983-84, reflecting an improvement of 5 per cent. The capacity utilization of public sector fertilizer 'N' as a whole also registered improvement from 53 per cent in 1982-83 to 56 per cent estimated for 1983-84. There has, however, been deterioration in fertilizer 'P_2O_5' from 44 per cent to 48 per cent in the same periods.

A number of other industries recorded fall in production during the year under review. Steel ingot and saleable steel production declined by 11 per cent and 16 per cent respectively. Production of iron ore lump by NDMC showed fall by 6 per cent and of gold by BGML a decline of 13 per cent.

In the engineering group, deterioration in the performance level was observed in respect of Lagan Jute, ITI, Hindustan Teleprinters, Bridge and Roof, Bharat Earth-movers, Cochin Shipyard, Hindustan Shipyard and Scooters India.

Consumer goods sector recorded a fall in production of paper by Mandya National Paper Mills, products manufactured by Rehabilitation Industries Corporation, etc.

Target achievements

Target achievement of major group of industries based on the original target during 1983-84 reflected 79 per cent achievement for steel ingot, 83 per cent for saleable steel, 99 per cent for coal, 106 per cent for lignite, 113 per cent for aluminium, 97 per cent for zinc, 86 per cent for lead, 88 per cent for copper, 98 per cent for iron ore, 84 per cent for fertilizer 'N', 82 per cent for fertilizer 'P_2O_5' 99 per cent for petroleum crude, 104 per cent for petroleum throughput, 82 per cent for cement and above 80 per cent for engineering goods (heavy industry).

Those exceeding their target

The undertakings which exceeded their targets 100 per cent and above during the year, were Central Coalfields, Western Coalfields, Neyveli Lignite Corporation, BALCO, Uranium Corporation, ONGC, RCF Trombay, Balmer Lawrie, Burn Standard, Praga Tools, Triveni Structurals, Bharat Wagon and Engineering Co., BHEL, Richardson and Cruddas, HMT, Bharat Process and Mechanical Engineers, Bharat Pumps and Compressors, Instrumentation Ltd., Tungabhadra Steel Products, National Newsprint and Paper Mills, Cycle Corporation of India and Mazagon Dock.

TOWARDS SOCIAL REVOLUTION

a Case for Economic Democracy — VASANT SATHE

A Serialisation 4

The political system

The historical features

BEFORE WE COME TO the present political scene, it would be desirable to briefly trace the broad historical features of Indian polity. India is one of the oldest among existing civilisations and probably one of the few whose past civilisation has a continuous link with the present. If we go back to the Indus valley civilisation, it is clear that the people of that age were fairly advanced and had some concept of community living and town planning. They had also developed a system of navigation and irrigation. The Aryans came with their own philosophy evolved over a thousand years of their journey down from the Arctic regions with their cattle in search of warmer climes and new pastures, and having been constantly required to fight their way, they possessed a better method of warfare and better weapons.

In the Indus valley, because of its fertility and richness, life was probably stable. People had become used to a soft life. It was then that the powerful Aryans, eager to find a land for their survival, came in But obviously, over the years these people too got influenced by the developments, knowledge and environment of this region surrounding the Sindhu river.

At this stage, it would be interesting to note that the river Sindhu, which in Sanskrit means a vast mass of water like the ocean, was pronounced as 'Indus' by the Greeks and later as 'Hindu' by the Persians. That is how the name 'India' came to be used for the land of Indus. The name 'Hindustan' came from the word 'Hindu' which was the pronounciation in Persian of the word 'Sindhu'. The word 'Hindu' is not found in any of the religious or even more ancient Vedic texts and, therefore, I have often wondered how the term 'Hindu religion' came to be accepted over the years. It is as good as saying that the religion of the people of India is Indian. I am saying this because the word 'Hindu' itself cannot connote the concept of the religion unlike other religions, like Christianity, Islam and Budhism. I will further discuss this when I come to the development of religion, but suffice it to say at this stage that the people who came in got absorbed with the original inhabitants of the Indus valley who had a well-developed civilisation and it was with this added vitality that they progressed further down and across the whole valley of the five rivers, i.e., Pubjab. Coming to the Ganges, a very rich culture developed over a period of a few thousand years with a highly limited population and land which had a rich potential in agriculture, cultivation, cattle rearing and horticulture. The scenic beauty was good enough to inspire thinkers and poets.

No wonder that such a society could produce persons who wanted to know the secret behind all the wonders: the gifts of nature with huge mountains like the Himalayas and the wide ocean-like rivers giving life to the whole land. It is thus that Vedic thoughts expanded and thinkers kept on searching and inquiring till they felt that they had arrived at the truth. A notable feature of this period of growth was that the inquiry was not inhibited and studies were made practically in every sphere, including medicine, astronomy, mathematics, engineering, architecture, arts and literature. The one inhibiting factor was the lack of growth of the art of writing and printing, which prevented the preservation of the knowledge and its mass availability.

Hence, knowledge had to be transferred perforce from generation to generation from one person to another by the teacher to his pupil or by the father to his son, and it is amazing that by this system, generations were taught to learn the texts by heart, not only of philosophy but of other branches of knowledge also. The skill remained restricted and confined to families and classes which later on got stratified into what are known as 'castes'. It is easy therefore to see that most of the castes were vocational and even named accordingly. Society as a whole was broadly categorised first into those who were totally devoted to the pursuit of knowledge and learning which had to be a very rigorous system because, as I have said earlier, everything had to be memorised and the minds virtually had to become small computers which could reproduce precisely what was taught to them by their teachers and also contribute

to further growth. The pursuit of knowledge was called the pursuit of the ultimate truth, i.e. Brahman, and hence those who were dedicated to this field were called the Brahmans.

The next important class was the one devoted to the defence and protection of society and the social system. The leader of this class was the king and the people who were trained from childhood in the art of society and warfare were known as the Kshyatriyas. Those who looked after the lands, the trade and the distribution of goods were known as Vaishyas and those who did mainly manual labour were called the lowest of the classes, i.e., Sudras. But it is significant that although birth gave an initial advantage, because knowledge had to be passed on generally from father to son, yet the classification was not restricted entirely to birth in the earlier period. It depended on the merit of the individual, and there are many instances where people born in one class, or a family belonging to a particular class, were accepted in another class because of their merit. Indeed, the supreme heads of even the most coveted of the intellectual class who were called seers or Rishis are known to have been born mostly in families of classes other than Brahman. They have been the founders of an institution called ashram, to which students came from all strata and were imparted the knowledge acquired by these learned seers.

Obviously, these learned men and their institutions were the most respected because it was from them, like in modern laboratories and research institutions, knowledge in various fields was acquired and transferred to people working in their respective branches. It, therefore, needs to be emphasised that the basic four classes were not based on birth or an identifiable caste system. This was more a convenient classification for the smooth functioning of the social order based mainly on merit and capability which required specialisation over a long period of study and training. Therefore, the most authentic and oft quoted texts on this subject also do not talk in terms of birth as the basis of the classification. The famous quotation of the Bhagvad Gita:

(This means that the classification of the society into four divisions, has been made on the basis of guna, i.e., qualities and merit, and karma, i.e., activities or actions, not birth.)

Thus, an individual's ability to perform in a particular field of action got him his classification. That there was this free flow and absorption is borne out historically by the fact that in the earlier period when people came from outside, they got easily absorbed into the wordly social fabric according to their merits. For example, in the earlier period, the Shakas, the Huns and the Greeks were soon absorbed into respective castes in the society. Even the origin of the clan of Chitpavan Brahmins to which the author belongs is attributed to some Greeks who probably, instead of returning with Alexander, came via the castline from the mouth of the Indu along the western coast and settled down in an area known today as Konkan. The Greeks must have got absorbed into the highest strata, both because they were proficient in the art of warfare as well as in the pursuit of learning. It is surprising that this clan has, even till today, maintained some of its distinctive features although over a few thousand years much diffusion has taken place. But that again is mainly because of the system of knowledge getting transferred from father to son, family to family and remaining restricted in certain families which continued over a period of generations.

I am stating this only to emphasise the point that the modern caste system has no sanction in the original texts and it has only grown out of social functional necessity. It is only in the later period, when society got stabilised and vested interests developed in the form of feudal lords and also in the class to which learning got restricted, that stagnation started. This led to restrictive precepts and practices getting consolidated into an arbitrary and unjust social order based on a birth-oriented caste system.

A social order in which knowledge and expertise passed from generation to generation and family to family in the initial stages had its own advantage, because it helped develop expertise in practically every field of knowledge and art. The skills acquired by people thus without the art of writing being widespread is indeed amazing especially when you consider the marvels of craft and beauty on the temples and the structures like the Taj, Khajuraho, Ajanta and Ellora.

The same thing happened in the fields of science and literature which produced giants like the epic-writers of Ramayna and Mahabharata and further down, Bhavabhooti and Kalidas. The other famous persons include grammarians like Panini, mathematicians like Aryabhata and Bhaskara, soldiers like Chandraguapta and Samudragupta, politcal philosophers like Kautilya and medical scientists like Susruta and Charaka. All this shows that the system had its own inherent advantage. Only when it got stratified and began stagnating that the urge for gaining new knowledge was lost probably because of an easy life and the preacher class acquired a dominant position. Then, it joined hands with the ruling class to evolve theories and customs in order to keep the rest of the society frightened and suppressed through blind faith.

It is this which brought forth a major rebellion in the form of Buddha, who decried the blindness arising due to the superstitious acceptance of the dicta of a particular class. He tried to revive the old passion for thinking and asked people to accept only that which appealed to the intelligence, that is, buddhi. It is from this word that the name 'Buddha', the intelligent, originated. It is a tragedy that many years after his preaching, his followers tried to deify the Buddha and to codify his teachings so that also became one more dogmatic religion. Codes of conduct are useful for any society at a given time, but the moment they become restrictive and there is an insistence that those codes alone have to be accepted, then the divisive constraints begin to operate, dividing human society into conflicting groups. Buddhism could not become a separate identifiable religion in India because there was no single identifiable religious system in India before the stagnation set in.

As already stated, the process of evolution, adaptation and growth had been a continuous one. That is why the code of life, which is the nearest to the world dharma, has been called Sanatan—meaning continuing—and, again, it is beautifully described in the famous philosophical thesis, the Bhagvad Gita.

(Whenever stagnation comes over the whole conduct of life, that is dharma, and there sets in a state of lethargy, then, to awaken such a society, I (the eternal energy) come again (is born again).

Therefore, the later seers like Shankaracharya accepted Buddha as the incarnation of the supreme.

Talking of incarnations, it is interesting to note that all the ten incarnations of the ancient Vedic pantheon fit beautifully into the modern theory of evolution. Beginning with *matsya* the fish, then the amphibious *koorma* the tortoise, *varaha* the bear, Naraimha (half animal and half man), *Vamna* the dwand *Parasuurama* the warrior, *Rama* is just and benevolent kind, *Balarama* the cultivator, Krishna the cowherd. Buddha the enlightened and now Kalki the horse rider.

I have no doubt that if the philosophy of Jesus Christ or that of Prophet Mohammad had come to India before the Adi Shankaracharya, he would have adopted them as subsequent incarnations because no method or form of worship has ever been considered as alien to the Indian system of life or dharma.

Over a period of thousands of years, great seers and teachers have laid down rules for a smooth conduct of life and since these rules or laws were accepted as being useful by the kings as well as the people they were incorporated in the entire concept of dharma, the way of life.

It is because of this basic flexibility that civilisation and culture in India have survived in an unbroken, continuous manner for more than 5000 years, whereas some other civilisations have disappeared.

Paradoxically although there is this flexibility and catholicity of outlook, the social structure crystallised round the family vocation, known as 'caste', into such watertight compartments that for anyone not born into the caste system it became well-nigh impossible to be absorbed by conversion. Thus, it led to only a one-way traffic; whereas the people, later on called Hindus by the Persian invaders, could get converted into Islam or Christianity, in spite of the strenuous efforts by some reformers either reconversion of even original conversion to 'Hinduism' became an impossibility, because unless a person came into the fold of one of the castes and was accepted as such, he could not be considered as part of the stratified system called the Hindu religion.

The caste system came into existence mainly on the basis of vocations, which continued to survive and grow in families generation after generation as the knowledge of a particular vocation or trade was passed on from one generation to another. Although originally this was not restricted to birth and people could go on to vocations according to merit, yet, in practice, by the very nature of things, vocations, crafts and trade became restricted to the families and to groups which later on developed into castes. These vocations over a period of time got social and religious sanction which in the Indian context became more or less a code of social order. As the vocations of learning and warfare as well as trade normally gave greater power to those who were well versed in these branches, these castes and classes came to be considered to be superior, and vocations which were mainly of manual nature were treated as belonging to lower castes. Unfortunately, some of these mannual activities were treated as unclean and the castes who were wedded to these were treated as untouchables. This virtually developed into a scourge. The Indian society has indeed been plagued by this cancer of caste system and it is high time that this system was done away with.

Social and even religious reformers have tried hard for hundreds of years to eradicate this disease of the caste system, but because castes are closely linked to vocations, it became well-nigh impossible to do away with this malady. But now in the modern age, when the whole method of education as well as vocational training and industrial growth has made it possible for people to go into different vocations other than those they were born in, the whole basis of the caste system has undergone a fundamental change. Today, the son of a Brahmin, who was considered to belong to the uppermost caste, serves as a salesman selling shoes and yet he is not supposed to belong to the caste of a shoe-maker. Similarly, one born in the so-called lower castes gets educated and becomes a lecturer or professor or a doctor, and yet he is not considered as belonging to a higher caste given to learning.

I have often felt that the best way to do away with this caste system is to remove all identifying factors which go with the name of a person. Earlier, people used to, even in the census, mention their caste or religion. But as the caste system has been abolished by the Constitution, particularly the one dealing with untouchability, it is no longer mentioned in the census. And yet, somehow, religion comes to be mentioned and in the Hindu religion caste is identified with certain surnames. The best thing would be either to abolish the surnames or for the so-called lower castes to adopt the surnames of the uppermost castes. If this is done, within a generation or two, all outward identifying factors would disappear. Along with this, it is important to note that although the original intention in giving reservation for the benefit of people coming from the lower castes was laudable, yet, these very privileges ad reservations tend to perpetuate the caste system by carrying the stamp of identification along with it. Could it not serve the purpose if the benefits and privileges were to be given mainly on an economic basis ? Because most of the backward castes or communities belong to economically weaker sections they would automatically be the people who would get the main advantage based on economic backwardness. This will also benefit religious minorities who do not get the privileges given to the backward castes.

Today, we find the strange phenomenon of practically every weaker section demanding to be included in the category of scheduled castes and scheduled tribes just to secure certain privileges and reserva-

tions which are nothing else but economic benefits. But because they are associated and connected with the caste system, this caste system continues to be identified making it practically impossible for its abolition. I know it is not easy to deal with this problem which has prevailed over thousands of years. But unless serious thinking and drastic remedies are taken to eradicate this highly discriminating and degrading phenomenon, it would be difficult to find a lasting solution to this problem of treating a human being as a human being on merit and nothing else.

Sometimes, I feel that if the religious heads, the Shankaracharyas of the main four branches of the *Sanatan dharma,* that is the Hindu religion, were to come together and pronounce that the caste system based on vocation and birth had lost all its significance in modern times and abolish the caste system altogether, I think they would bring about a revival of the free flow of the *Sanatan dharma* in its true spirit.

Without going into the details of history, we know that people who were the followers of Islam and many more who got converted into it have dominated the political scene for nearly a thousand years as rulers of a major part of India, which they adopted as their land, particularly in the northern territories. Apart from Islam's influence on the socio-political life, it also had an historical impact, and even the East India Company, having come to trade, found that they could, by supporting one ruler against another in this vast sub-continent, establish their imperial authority in India. The role played by the two major religious forces, viz., the *Sanatan dharma,* and Islam, is well known. Ultimately, it led to the division of India not so much because the people belonging to the two religions could not stay together, but more because both felt that in a free India they should have the unrestricted right to govern and rule. And the British rulers saw to it that this polarisation not only took place but was sedulously aggravated at every stage, leading eventually to the savage surgery of partition in the very ecstasy of freedom. □

(Next Issue : Post-independence scene)

Computerisation of land records

M. Rama Rao

ANDHRA PRADESH is setting a new trend in the preparation and maintenance of survey and land records. It has been decided to computerise the whole process and store the data in a computer with expandable memory so that required information can be recalled at the push of a button. By the end of seventh plan, computer centres will be opened in each of the twentythree districts of the state. These will be connected to three regional centres covering Telangana, Rayalseema and the coastal belt, which, in turn, will be linked with the main centre in the state capital of Hyderabad. Computerisation will revolutionise the collection of agricultural statistics, exhaustive and comprehensive upto date land registers and records and the maintenance of land revenue accounts. Andhra Pradesh has over two : three crore survey points spread over its twentythree thousand villages. The data in respect of each land holding, namely the extent of the land ownership, soil fertility, crop practices and land revenue assessment is at present collected manually and recorded in three copies of which one is available with the Village Officer. The second copy is maintained by Revenue Officer of the area, while the third copy is in the hands of land records Officer at the state level. Although an exercise of checking these records is carried out by the Tehsildar, in the name of Jamabandi, complaints pour in the Collectorates at the district level and the Secretariat at the state level everyday that correct land particulars are not available. Endless litigation is a natural corollary of such a situation. Admittedly it is practically impossible to update the records when change of ownerships has become a regular feature. The absence of precise data has been hampering the implementation of land reforms. The traditional distance measuring technique for land surveys are also being modernised. It is a common sight not only in Andhra Pradesh but also in most places in the country to find that surveyors gauge distances with a telescope like instrument known as the Odelite with chain pullers measuring the distance. This method takes five days to measure three to four kilometres.

Sophisticated gadget

The traditional equipment is now being replaced by a sophisticated electronic gadget manufactured indigenously by the public sector, National Instruments Limited, Calcutta. So far only the survey of India has been using these gadgets.

The Geodetic distance measurement equipments are electronically operated through a micro processor control. Its working principle is based on emission, reflection, reception and processing of the infra red rays which constitute the invisible eye. Naturally this drastically cuts down the amount of manual labour in field surveys, and also the time taken for such exercise. Work is speeded up by ten to fifteen times. The new electronic instrument will complete the work presently carried out over five days in just two or three hours. These instruments will make large scale boundary demarcations easy even in the hitherto inaccessible tracts. These will provide precise and accurate information. These instruments will be supplied to each district in the state in the next five years. The state government says that after the use of these instruments, the data available with the people would be such that there will be little or no room at all for inter-village, or inter-district boundary disputes. These will also help in curbing land feuds in the villages. □

(Courtesy : All India Radio)

All-time high fish production

AN ALL-time high production of 16.04 lakh tonnes of marine fish landings was recorded during 1983-84. This amounts to a quantum jump of 11 per cent over the previous year's production of 14.44 lakh tonnes.

The factors for increase in marine production over the years include improvement in the deep sea and inshore mechanised fishing fleet and berthing and landing facilities for fishing vessels. The increase in 1983-84 may as well be ascribed to the better fishing season for offshore pelagic fisheries. □

Guns or butter: can the world have both?

FOR ABOUT $500 MILLION, the price of an aircraft carrier, the World Health Organisation can wipe out from the developing countries the dreadful diseases of leprosy, yaws malaria and trachoma. For the price of just two of the latest type of strategic bombers $ 200 million—the UNESCO can eliminate illiteracy from the world map.

These are but two random examples of the benefits of diversion of military expenditure to social and economic development programmes. Sweden's Under Secretary of State, Ms. Inga Thorsson, dismisses the thesis that military spending can contribute to employment generation and that money spent on armament does no retard economic devélopment.

Colossal military expenditure

According to her "Conservative estimates suggest that global industrial production for military purposes in 1980 amounted to more than $ 127,000 million, 9.5 per cent of which took place in the industrialised countries. World-wide military expenditures. as a whole, however exceeded the astounding level of $600,000 million, perhaps $650,000 million by 1982, representing 6 per cent of the total world output for that year. This amount is roughly equivalent to the value of all investible capital in all developing countries combined."

Equally significant is the fact that roughly 20 per cent of the world's qualified scientists and engineers were engaged in military work in 1980. In fact military research accounted for more financial and intellectual resources of the world than those devoted to research and development on health, food production, energy and environmental protection combined.

Trade in arms

According to Ms. Thorsson, the international trade in arms amounted to about $35,000 million a year, 75 per cent of which accounted for by purchases by developing countries. "It is not true, however, that the developing countries generally squander vast resources on armaments, although the overall trends are frightening", she says. "The share of world military expenditures incurred by the developing countries grew during the 1970s, from 9 to 16 per cent. One should not forget that it has been the scene of almost all of the roughly 140 wars that have been fought since 1945. In any case, this 16 per cent of world military expenditures is split among some 125 developing countries while only 35 industrial countries consume the remaining 84 per cent".

Ms. Thorsson dismisses as a fallacy the argument that military spending is beneficial inasmuch as it increases national security, creates jobs and generally stimulates civilian economy. "Military outlays fall by definition into the category of consumption and not investment. When they are steadily high or increasing, they tend to depress economic growth."

If half the funds spent on armaments throughout the world from 1970 to 1975 had been invested in the civilian sector, the annual output at the end of that period would have been $200,000 million higher that it actually was—a figure in excess of the aggregate GNP of Southern Asia and the mid-African regions. And this growth, according to Ms. Thorsson, would most likely have been achieved without any extra demand for investible resources

ILO Feature

More than one crore cattle insured

THE NUMBER OF CATTLE, including other livestock, insured under various Animal Insurance Schemes, crossed one crore mark in 1983.

According to the provisional figures for insured animals available with the General Insurance Corporation of India, their number stood at 1,06,45,900. This figure does not include birds, bees, fish, silkworms etc. which were also insured.

The Animal Insurance Scheme has made phenomenal progress during the last ten years. In 1974, when the scheme became opertional, only 29,570 cattle were insured.

Animal Insurance Schemes are basically rural oriented ones. The schemes cover cows, bulls, bullocks, heifers, sheep, goat, poultry, pig, camels, horses, elephants, donkeys, rabits, dogs, ducks, bees, silkworms, fish etc. □

GRAMMAR OF PLANNING

A Serialisation 5

P. R. Dubhashi

The spatial planning

Describing 'Sectoral Planning' as a planning methodology aiming at consistency between the aggregate growth rate and the sectoral growth rates (see the last issue), the author here explains the spatial plannig which is built round the concept of area development identified by economists as metropolitan regions, river valley areas, industrial belts, geographical complexes, mining areas, catchment areas, flood control areas, etc. "to provide locational dimension to planning and help in giving an operational reality to them".

WHILE IN THE PREVIOUS CHAPTER we have consideerd the planning methodology in national aggregative terms, it is obvious that, in a large country, planning has to be for sub-national units like the State or the Republic, the district, the block and the village. If one set of methodological problems arises in connection with the formulation of sub-plans for sectors, another set of methodological problems arises in formulation of sub-plans for these sub-national units. Just as there is the methodological problem of breaking up aggregative plans into the consistent set of sectoral plans, there is also the methodological problem of breaking up the national plan into a consistent set of plans for constituent units. Just as a view is expressed that rather than going from aggregative plans to unit plan we should derive the aggregative plan from economically viable and technically sound project plans, a view is also expressed that the national plan should be derived by aggregating village plans which must first be prepared.

This immediately raises the methodological controversy as to whether planning should be from above or from below. In one view, planning has necessarily to be from the above since only a national assessment of resources and needs can provide for a consistent national plan. On the other hand, it may be argued that only a village plan can take note of the local needs and local resources. What is more, from the point of view of democratic planning i.e., the involvement of people, local planning has an advantage over the national plan, since they can evoke better participation of the local people in the formulation and implementation of the local plans.

However, planning from below has not proved practical anywhere. For, one, major projects would necessarily fall beyond the purview of the local planners and it is these major projects that can be an engine of change. It is these which can make a significant difference to the economic development of a country. Moreover, local planning tends to emphasise a mere enumeration of needs rather than of mobilisation of resources for the fulfilment of those needs. As a result, aggregation of local plans into a national plan may turn out to be a mere expression of aspirations without any possibility of fulfilment of such local plans. The exercise of aggregation may itself turn out to be futile.

While these are the disadvantages of planning from below, it is not as though planning from above would be without any problems. There is every likelihood that planning from above will fail to take note of the local resources and needs.

If planning from above is accepted, the methodology of diaggregation of a national plan into sub-national and local plans has to be evolved. One way of doing this would be to distinguish between national projects, regional projects and local projects. The regional plan would consist of the regional projects plus such of the national projects that fall within the region. Similarly, the local plans would consist

of the local projects plus such of the regional projects as fall within the local units. In formulation of the regional and local plans while the general size would be indicated by the higher planning authority, their details would be left to be decided by the regional and local authorities. The regional and local authorities would also have to take into account the spread effects of national investments or those complementary to the national projects.

The question of criteria

There is a question of the criteria for the classification of the activities which would fall in the central sector, the state sector and the local sector. The advocates of the principle of decentralisation would ask for the maximum number of projects being retained in the local sector, while the advocates of centralisation would like to reserve as many activities as possible for the central sector. Clear-cut economic criteria as to what must be centralised, and what must be decentralised and what may be centralised or decentralised cannot easily be laid down.

Where there is a written constitution, the constitutional division between the federal and constituent units is available for identification of national and regional sectors.

Even after a methodology is evolved for breaking the central plan into a set of local and regional plans, the question still remains of integrating plans from above with the plans from below. The plan from below must be based on an assessment of local resources and local needs. The plan from above would indicate a fraction of the national plan which is available for the locality and which is based on central appreciation of the local needs. Both these components have to be woven into an integrated and consistent local plan.

Local plans are not just divisions of the national plan into unit plans on an arithmetic basis. Each locality or region has its own potentialities and possibilities, its own resources and needs and the national plan has to take note of them both in the allocation of national resources and programmes and in their integration with the local needs and resources. This is possible only if adequate attention is paid to regional analysis. In recent years, significant developments have taken place in the techniques of regional analysis which have developed into a separate discipline called regional science.

It originated with the theory of location of the economist Alfred Weber, who identified factors which attract or repel industrial enterprises to or away from a location. He identified the process of agglomeration and degglomeration. Up to a certain point, as more and more activities are started at a place new activities find it advantageous to concentrate at the same location but beyond a certain point congestion and over-crowding makes the location less and less attractive thus setting a trend for the location of new activities away from the place. Built up from these concepts, Walter Isard and Christaller and other writers have evolved further elaborate theories of spatial planning.

Spatial planning

Spatial planning is built round the concept of area development. The economic landscape develops according to certain natural or economic factors which lend homogeneity to a region. Thus, economists have identified metropolitan regions, river valley areas and industrial belts, geographical complexes, mining areas, catchment areas, flood control areas, etc. Certain homogeneous factors like water, soil types, transport network, etc., make such areas appropriate units for economic planning on a regional basis.

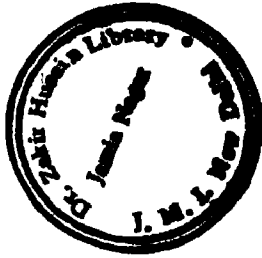
These areas may not necessarily be co-terminous with the administrative boundaries. River bases or soil types know no artificial boundaries. A new idea is, therefore, coming up that instead of preparing local plans for areas co-terminous with existing administrative boundaries, planning areas should be demarcated and regional plan prepared for such areas. Thus, Khrushchev introduced an innovation in the Russian planning system when he divided the country into 55 planning regions.

There are nodal points for such planning regions. These points are the radiating centres of economic impulses. Some time these are called growth points or central places.

Regional science studies indicate that there is not just one single nodal point or growth point. There is rather a hierarchy of such nodal points, growth points or central places. The lowest of the hierarchy of the growth points has certain villages or communities attached to it like a cluster. A cluster of subsidiary cental places in turn form a constellation round a growth point of a higher category.

The regional plan or the local plan instead of talking of the targets of economic activities for the region as a whole should rather identify the economic activities with reference to the network of growth points and the area of influence of such growth points. Only this would provide locational dimension to planning and help in giving an operational reality to them.

An important objective of spatial planning is to avoid apoplexy at the centre and anemia at the periphery. The economic forces tend toward conglomeration of industry at urban centres while the interior areas continue to be deserted due to outward migration. Excessive conglomeration may lead to urban sprawls of such a degree of concentration of population as to go beyond the farthest limits of creating social facilities like housing, transport and water leading to evils like slums pavement dwelling, vagrancy, congestion in houses and drains and environmental pollution. W. Arthur Lewis has, therefore, rightly observed that a good development should contain measures to restrict further growth of cities with population in excess of 500000 and develop population centres in the range of 5,000 to 50,000. □

(Next Issue : The distinct and local planning).

New registration procedure at employment exchanges

A NEW PROCEDURE for registration of candidates and for their referrals to employers, is being introduced at all the employment exchanges from July 1984. This will reduce the waiting period for fresh registrants and enable the employers to select more suitable candidates.

Under the simplified procedure, three different registration cards for different categories of applicants have been provided.

In the new referral policy, each employment exchange will prepare an annual list, in advance, of the candidates likely to be referred to prospective employers. From this list, candidates will be submitted only by seniority.

Under the procedure, a candidate who has been sponsored three times against Public Sector vacancies of regular/long term nature, will be kept dorment till such time as all other candidates having one year seniority, on the Live Register of the employment exchange, have been given three such chances.

At the end of 1983, the national employment service consisted of a net work of 726 employment exchanges. This network included 74 University Employment Information and Guidance Bureaux (UEI GBx) and 22 special employment exchanges for the physically handicapped. □

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India's space profile in the eighties

The Indian space programme is poised to hasten the transition from competence building and experimental missions to semi-operational and operational systems during 1985–90.

The main thrust in realising the major objectives of the approved 1980-90 space profile will be to achieve self-reliance in spacecraft and launch vehicles, complete inter-linkages between the launch vehicle, satellite applications, development and utilisation programmes, in addition to closing options for procured launchers.

The major missions targeted for 1985—90 include the launching of Augmented Satellite Launch Vehicle (ASLV) and Stretched Rohini Series Satellite (SROSS) in 1985, and of Indian Remote Sensing (IRS) satellite in 1986. The Polar Satellite Launch Vehicle (PSLV) is scheduled to be launched in 1988.

While the ASLV is designed to place 150 kg class satellites in low earth orbit, the PSLV is being designed to launch 1,000 kg class remote sensing spacecraft into polar sun-synchronous orbit.

As for the operational space services component envisaged in the Seventh Plan, the primary element is the INSAT system. The second component is the National Natural Resources Management systems of which the IRS series satellites will constitute the space segment.

The INSAT Programme has now entered the operational phase serving identified national requirements, such as long distance telecommunication, round the clock meteorological observation, data relay, disaster warning, and television broadcast.

As an active in-orbit back-up to INSAT 1B, another satellite, INSAT 1C, is being procured and is expected to be launched in 1986. The next satellite in the series, INSAT II, is scheduled to be launched in 1988-89☐

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August 15 ■ Special

yojana

the dirty ones and their game

in the field	*the referees*	*in the field*	*the referees*
Politicians	vasant sathe madhu dandavate	Professionals	v.r. krishna iyer soli j. sorabjee
Bureaucrats	p.n. haksar p.s. appu	Preachers	k.a. abbas debiprasad chattopadhyaya
Planners	malcolm s. adiseshiah bunker roy	Business men	mohit sen kamal nayan kabra
Educationists	p.m. bhargava amrik singh	Journalists	khushwant singh c.p. ramachandran

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"Where the mind is without fear and the head held high;

Where knowledge is free;

Where the world has not been broken up into fragments by narrow domestic walls;

Where words come out from the depths of truth;

Where tireless striving stretches its arm towards perfection;

Where the clear stream of reason has not lost its way into the dreary desert sand of dead habit;

Where the mind is led forward by Thee into ever widening thought and action—

Into that heaven of freedom, my father, let my country awake!"

YOJANA

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Sravana 24, 1906

Our contributors :

Vasant Sathe, Union Minister of Chemicals and Fertilizers, New Delhi, **Prof. Madhu Dandavate**, M.P. (Lok Sabha) and Leader of Janata Parliamentary Party, New Delhi, **P.N. Haksar**, formerly Principal Secretary to Prime Minister and ex-Deputy Chairman, Planning Commission, New Delhi; **P.S. Appu**, former Director, Lal Bahadur Shastri National Academy of Administration, Mussoorie and ex-Chief Secretary, Bihar; **Malcolm S. Adiseshiah**, Chairman, Madras Institute of Development Studies, Madras; **Bunker Roy**, Consultant, Planning Commission, and Director, Social Welfare Research Centre, Tilonia (Rajasthan); **Dr. P.M. Bhargava**, Director, Centre for Cellular and Molecular Biology, Hyderabad, **Dr. Amrik Singh**, formerly Vice-Chancellor, Punjabi University, Patiala; **V.R Krishna Iyer**, former Judge, Supreme Court of India, **Soli J. Sorabjee**, Senior Advocate, Supreme Court and former Solicitor-General of India, New Delhi ; **K.A. Abbas**, a noted author and veteran journalist, Bombay, **Prof. Debiprasad Chattopadhyaya**, Project in-charge, National Institute of Science Technology and Development Studies, Calcutta; **Mohit Sen**, Member, Central Politburo, C.P.I.; **Kamal Nayan Kabra**, Professor of Economics, Indian Institute of Public Administration, New Delhi, **Khushwant Singh**, a noted author and veteran journalist, New Delhi; and **C.P. Ramachandran**, Senior Asstt. Editor, **The Hindustan Times**, New Delhi

Why this issue?

HOW come *Yojana*, a journal on planning, takes up issues not strictly falling in its ambit ! Yes, dear reader, if thinking goes this way, we do owe you an explanation—please bear with us just 2-3 minutes and you would be at it !

Believe us, it is not, *we repeat not*, out of any malice that we took up this exercise, "the dirty ones; and their game". Possibly, the theme as such does look rather unusual but surely not out of place!

As life goes, we have on the one hand the monster, called *the system*, to which we associate all that is bad in life, and on the other, the mute millions, longing for good, clean living. But, does this longing not look a mere pious wish ? Perhaps, yes, but a good one to live by.

Anyhow, who, you think, in society, play dirty game and make living difficult ? How come they carry on unchecked ? Can anyone dare disturb their game ? And, will at anytime men of goodwill succeed in dislodging them? These some pertinent questions, frankly speaking, we find very hard to answer. Why then an exercise in futility ?

So, to do or not to do was our problem. We did some hard thinking and decided at last to take the plunge. And, please, don't think we are that naive to claim any special skills to offer easy solution to difficult problems. But, what we can only claim to is an urge to grapple with problems. Our effort here has been to identify forces heading the system and gather findings on their doings from some leading lights in the country.

But, how do people take this phenomenon ? Are they quite happy with the system as it works, or, they take it that any move for change is bound to be frustrated ? As life goes, apart from feeble voices we hear here and there, people at large seem to have learnt to live with it.

However, what troubles us is the goings on in the press, which we are told is the mouthpiece of the community. How and what it offers its reader ? Well, all that, as it thinks, meets the reader's interests ! And when circulation shows a rising curve where lies any risk in taking reader for a ride ! Why not then go ahead with the routine—*news*, coloured to the needs, *views*, as suit the interests, and *features* that sell most ! The by-word is *sell* and sell more and what boosts up sales is sensationalism. It is gossip, sex and scandal which the press believes are the reader's choice. Why, it thinks, bother for things serious—they tax reader's mind and he has no time and taste for them ! Believe it or not, all this neatly fits in in the system! The press, as it is, naturally likes playing the quick ones to back their team in the game !

It is in such vaccum, dear reader, that our mind, again and again, turns to the only agency which possibly can turn the tide. This is the Government-run media, with the farthest reach, and if it at all means business it cannot close its eyes to

the onslaught on decent living. But how do things move in Government ?

By the way, what exactly is Government made up of ? A dozen or two party politicians at the helm of affairs and a large horde of bureaucrats who rule the roost. And, what when the two join to work for common cause !

Be it as it may, what one cannot overlook is the danger the system poses to the country's unity. Our purpose here is not to go into all aspects of the menace but just to make our point. Speaking plainly, it is about the Government strategy to forge communal harmony and emotional integration. Shall we, dear reader, attempt here its summing up for you to ponder over !

All along, yes, right from August 15, 1947, our efforts have been to sell *teachings* of our *great* religions and use our *faithfuls* to project, what we call, *unity in diversity* As things are, now let's be honest and confess that this so-called strategy has failed us miserably. Or else, how do we explain this continuing distrust among our communities ! The situation, frankly speaking, is grim and no better than it was on August 15, 1947. How and why so ?

The dilemma, dear reader, is that we live and go about in life only as Hindus, Muslims, Sikhs and Christians and not, *we repeat not,* as rational beings. We grow in the narrow confines of communities where going about in life is ordained. And, day in and day out, we are fed with the so-called virtues of such living. Our community leaders and preachers hammer into us the importance of maintaining *identity.* If such goes life, no wonder people, born and bred in the community, develop *natural* liking for the likes. And so, life moves on in the midst of mutual bickerings but the cat gets out of the bag the moment there develops some strain and stress. The truth is, all communities invariably act and react only to their *lights.*

The solution, yes, the right one, is that we take up, with all the zeal, enlightening of minds which truly perceive the growth of society—from the dark ages to the present when science and rationality has exploded many a myth. Yes, we need beginning teaching *not* as we do today, that the sacred book of Hindus is *the Bhagvad Gita*, the sacred book of Muslims is *the Quran*, the sacred book of Sikhs is the *Granth Saheb* and the sacred book of Christians is *the Bible*, but with the real rational stuff that develops reasoning in the child and also courage to question everything, yes, even these holy books. Living in the community cage just won't work.

In short, what we really need doing today is to liberate people from their community cages; expunge their pride and prejudices and make them learn living a full life with fellow-beings.

But will things change ? We hope they will and make living worth it !

CHIEF EDITOR

Politicians

We only enjoy power and bureaucrats rule !

Vasant Sathe

Slowly but surely, the quality of politicians has deteriorated, says Vasant Sathe, and we live today in a system where the politicians only enjoy power and all that goes with it, leaving actual governance and even formulation of policy to the bureaucrats. The system, he regrets, has grown with the active connivance of dirty politicians and the rampant corruption.

IF POLITICS IS THE SCIENCE of government as well as the art of governing, then the importance of the role of politicians can easily be understood. No community or section of human society affect the lives of a people as much as this body of social scientists-cum-artists as the politicians In fact, their being efficient or otherwise depends largely on whether the dominant section among them consists more of social and political scientists or social and political artists. In fact, the best thing is the combination of the two elements in the politician. But if there has to be a choice it would be desirable to have a politician having temper and quality of a social and political scientist rather than that of a political artist nowing only the art of influencing people without a proper vision

It is at once true that in a representative form of government where the people have a right to choose their representatives periodically, the politician needs to have the ability of making friends and influencing people and convincing them. This, however, does not necessarily mean that he should be a good orator or stage performer But it does mean that he should be close to the people and they should feel that they can entrust their well-being in the hands of this person in electing him as their representative.

Their role today !

Politicians have acquired an important role as a class or community, mainly in the context of modern democracies where the people get a right to choose their representatives to look after the governing of their society. This governing, in modern times, is not restricted only to law and order and defence, but touches and covers practically every field of activity in a given society Hence the quality, capacity, character and role of politicians becomes even more relevant

During Independence struggle, because there were less opportunities for sharing the loaves and fishes of political power except for those who sided with the colonial rulers, the freedom movement itself meant incurring the wrath of the rulers and suffering hardships Even in a peaceful movement, there was always the risk of internment in jails and detention for longer periods. All this threw up a cadre and a class of politicians who were ready to face these hardships and who, as a part of movement under the leadership of Gandhiji—and even earlier during the period of Gokhale, Tilak, Lala Lajpatrai, Bipin Pal and others adopted a certain pattern and code of national discipline and personal behaviour Their main capital was the example that they would set for their countrymen and the confidence that they would inspire in them in the struggle for independence With Gandhiji coming on the scene, he brought in even a stricter code of personal life and discipline in the form of *khadi*, constructive work, etc

However, as soon as we became independent, although in the earlier phase we had the leadership which had emerged from the discipline of the freedom movement and its culture, the same did not last long because the whole value system got conditioned by the economic system which, in effect, sanctified not only exploitation of one section by another but accumulation of gains made without consideration for the means in the hands of the few. Although in theory people everywhere, mainly those in authority and in the Press, kept on condemning and criticising corruption, the source of corruption, the growth of unaccounted money and its use, corruption in practice got sanctified and has virtually become a part of life. As Vinoba once observed "Slowly but surely, *Bhrastachar* itself became *Shistachar*", meaning that corruption became the true code of life.

This black value system

It is here that like people coming out of the coalmine accusing one another of having one's face and body blackened, there is no field of life where one can say that directly or indirectly it has not been affected by this phenomenon of black money and the black value system. The people who appear to be holiest are those who criticise the most, particularly in the fourth estate. But even a superficial scrutiny will show that those who criticise most vehemently would not, if put to a test, be able to say that they do not partake in the flow or overflow of the unaccounted wealth.

"As soon as we became independent, although in the earlier phase we had the leadership which had emerged from the discipline of the freedom movement and its culture, the same did not last long because the whole value system got conditioned by the economic system which, in effect, sanctified not only exploitation of one section by another but accumulation of gains made without consideration for the means in the hands of the few".

And yet those who cash on the most—and I would submit rightly so—are the politicians, because they have taken upon themselves a role in which they are taking the responsibility for the welfare not only of their own, but mainly that of their fellow citizens. It is because of this claim and because they go to the people pleading with them to put the trust of their fate in the politician's hands, it becomes imperative that those politicians who desire to be leaders of men owe a duty for observing certain code of behaviour which would not betray the trust reposed in them. And this behaviour is not restricted only to outward manifestations, but more so to what they do to bring about a change in the living conditions of the impoverished majority of their fellow citizens who have put their faith in them.

And enjoying power !

Unfortunately, after the first euphoria in the post-Independence era, the politicians slowly sagged into a comfortable role of enjoying power, leaving the task of actual administration and even formulation of policy, step by step, to the bureaucrats, believing that it is not necessary for them to have any direct hand in administration or implementation of policies. They thought that their role was restricted only to being the propagandist and pulpit preachers of the political platform. The result was that a whole system has developed in which it was felt day by day that it was not necessary to have any specialisation, expertise or knowledge for politicians to be the representatives of the people. That any one who could have a charismatic appeal and who could use the publicity technique of projecting a person could get elected and that was the end of it. Once elected, it was only a case of gathering the fruits of power to secure the wherewithal for the next election as well as the enjoyment that goes with the money power. This is how a crop of politicians, whose value system was reduced to the formula of somehow acquiring power, came into being.

"Although in theory people everywhere, mainly those in authority and in the Press, kept on condemning and criticising corruption, the source of corruption, the growth of unaccounted money and its use, corruption in practice got sanctified and has virtually become a part of life. As Vinoba once observed, "Slowly but surely, *Bhrastachar* itself became *Shshtachar*, meaning that corruption became the true code of life".

This phenomenon is common to all political parties. It may differ in degrees according to availability of opportunities but the philosophical or value base is the same all over. The political parties whose cadre was fed on the slogans of socialist values very soon discovered that to fight an election they need funds and these funds do not come by circulating buckets and baskets, but come mainly from those who have amassed the unaccounted wealth and who are giving it with a hope that the beneficiaries will play their role when they become representatives.

Thus, the dirt and the dirty politicians are a phenomenon, which is the result of a system which we have allowed to grow in spite of ourselves, nay, through our connivance and may be due to a willing acquiescence of some. As long as we do not have the earnest desire to change this system and structure and plug the source of the poisonous pollutant of corruption, it will only remain a cry in the wilderness, one accusing the other of being corrupt, chopping off a few heads to satisfy the conscience and to deceive ourselves and the people, but without any real impact on the way of life.□

"After the first euphoria in the post-Independence era the politicians slowly sagged into a comfortable role of enjoying power leaving the task of actual administration and even formulation of policy, step by step, to the bureaucrats believing that it is not necessary for them to have any direct hand in administration or implementation of policies".

Our dirty game is far more dangerous !

Madhu Dandavate

Decrying erosion of values leading to worst type of corruption and casteism, politics today, says the distinguished parliamentarian, is no more a science of change but has been reduced to the manipulative arithmetic of caste. The tensions among people, he adds, is the capital for electoral gains and the politician remains deeply involved in the dirty game of accentuating conflicts.

THERE IS DETERIORATION IN VARIOUS fields. However, what is of far reaching consequence is the denigration of our democratic institutions due to erosion of values. This has badly hit the politicians and the political institutions in the country.

In the famous book "God that failed", Ignazio Silone says.....

"The distinction between theories and values is not sufficiently recognised, but it is fundamental. On a group of theories one can found a school; but on a group of values one can found a culture, a civilization, a new way of living together among men".

However, group of values to which Ignazio Silone has referred has suffered in politics. Corruption is not a new phenomenon During the British regime in India too there was corruption Even after independence the corruption was not eradicated. But our concern for values made the society consider corruption as an abberation Now there has been institutionalization of corruption and no stigma seems to be attached to such corruption There is no burden on politicians' qualms of conscience. Those who lose majority in legislatures and have to relinquish power do not do it so easily and ungrudgingly In their last ditch effort for survival they treat members of legislature as purchasable commodities to swing the balance of power. The political minority in a legislature is transformed into a majority overnight and with the dirty game succeeding they manage to keep themselves in the saddle of power. This filthy game in politics has resulted in the denigration of the very institution of Parliamentary democracy.

The communal violence

Recently there has been an unprecedented outburst of communal violence in places like Bhiwandi and Bombay in Maharashtra Common man left to himself is peace-loving. He desires to live in amity with his

neighbours no matter to which religious and communal groups they belong. However some politicians who can build their positions only by capitalizing on communal strife rouse the communal passions of the people. It is difficult to awaken the people on injustice perpetrated against them in socio-economic fields. However, appealing to their baser communal instincts is comparatively an easier task. The short-sighted politician is at his dirty game. He remains in his ivory tower and through his pen and spoken words he provokes communal frenzy. Because of his populist approach he gains ascendence in his own community. But the result is communal disturbances in which only the poor among various communities get killed, only their petty belongings are destroyed, and the politician who fans all troubles merely watches the smouldering fires of the huts of the poor from a safe distance.

"There is no burden on politicians' qualms of conscience. Those who lose majority in legislatures and have to relinquish power do not do it so easily and ungrudgingly. In their last ditch effort for survival they treat members of legislature as purchasable commodities to swing the balance of power".

In some of the recent communal riots the dirtiest face of a politician backing vested interests has been revealed. At Bhiwandi some hutment dwellers were roasted alive along with their hutments which were set on fire. It is widely said that this was the conspiracy hatched by landlords and backed by politicians. They had a vested interest in getting the possession of the vacant land and so they chose to set the hutments on fire. When the authorities announced that the hutments gutted in the fire would be rebuilt to rehabilitate the survivors, the landlords went to the court of law to secure stay on the reconstruction of the demolished hutments. They were blessed by some politicians. Can there be a dirtier game ?

The politician often talks in high sounding terms about the dignity and sanctity of the places of worship. The strange paradox is that the very politicians who stoutly upholds the dignity of the place of worship contributes to converting the place of worship into an arsenal of ammunition and arms and abode of criminals and terrorists.

These acts constitute the desecration of the place of worship. This again is a dirty game of the politician. Unfortunately the victims of this game are the common folk.

A divisive force !

There was a time when the mainstream of Indian politics was an integrating force in the country. Today politics is fast becoming a divisive force. Lured by the prospects of electoral victory, politician is encouraging caste-ridden politics. Politics has become a game of the caste-ridden backward states. It has ceased to be a science of change but has been reduced to the manipulative arithmetic of caste. The tensions between these castes is the capital for electoral gains and so the politician remains deeply involved in the dirty game of accentuating caste conflicts with an eye on elections.

Only in times of national crisis like aggression or struggle against authoritarianism the fissiperous tendencies meticulously nurtured by politicians recede to the background only to surface again when the crisis is over.

Whether it is the politician engineering defections, institutionalising corruption or capitalising on communal and caste tensions or whether it is a trader backed by politician or a bureaucrat indulging in adulteration, it is the serious erosion of values that has made politicians' dirty game possible.

"Some politicians who can build their positions only by capitalizing on communal strife rouse the communal passions of the people. It is difficult to awaken the people on injustice perpetrated against them in socio-economic fields, However, appealing to their baser communal instincts is comparatively an easier task".

Only through the fire of struggle and sacrifices for a cleaner public life or in a long-drawn education process of cultivating character and nourishing ennobling values that this dirty game in politics can be defeated. The path is an arduous one. But it has to be trod in the interest of cleansing our public life and politics.

"Whether it is the politician engineering defections, institutionalising corruption or capitalising on communal and caste tensions or whether it is a trader backed by politician or a bureaucrat indulging in adulteration, it is the serious erosion of values that has made politicians' dirty game possible."

Bureaucrats

The pot and the kettle !

P. N. Haksar

YOJANA put to Shri P. N. Haksar the following questions

1. **The YOJANA coverage in its thematic Special, "the dirty ones; and their game", includes bureaucracy as well. How do you look at the teaming-up ?**
2. **What, in your opinion, has led to slide-down in the working of the bureaucracy ?**
3. **How do you look at the concept of committed bureaucracy ? Is the present bureaucracy capable of delivering the goods ?**
4. **How do you look at the grievances of the technocrats vis-a-vis the bureaucrats ?**

We publish below Shri Haksar's response :

(Chief Editor)

THE WAY YOU HAVE STRUCTURED YOUR questions, it is rather difficult to answer them truthfully. It is extremely difficult in our country to explain the concept called "system". It is equally difficult to build and maintain institutions in our country. We, as a people, only understand individuals and, at a higher level, we are overwhelmingly concerned with self and its salvation. It is this preoccupation which is destructive of, what I might call, a "systemic" approach and of respect for institutions.

While our academics talk about holistic approach, in actual practice we just do not actually see the interpenetrating historical, social, cultural, political and economic processes The result is there for everyone to see. Institutions decay. We have disonances, we have incoherence, we fall apart even while seminars are being held and speeches are being made for promoting national integration

Bureaucracy is not an isolated phenomenon. It is a part of our state system. If one could compare the State to a ship, the political leadership will be found in the control of the Bridge of the ship constituting itself as a collective Captain of the ship The bureaucracy would be the Engine room Both of them have to work together to make the ship move in a particular direction. The direction is set by the political leadership The analogy of the ship is far too simple because the direction of its movement, its destination or destinations, are known. But when one has to provide leadership to vast processes of historical, political, social, economic, cultural, educational, scientific, technological transformation, things get extremely complicated. And they are indefinitely more complicated in India where we are, for the first time, concerned with creating modern industry, modern agriculture, modern science and technology and a state system which cannot be described as Mughal or Gupta or Vijayanagar or Chola or Chera—all based on the system of Kingship and dynasty.

The State is controlled by government and the government in its turn, is controlled by a political party and its leadership.

Reverting to the analogy of ship and State, you can just imagine what will happen to a ship in motion if the Captain and the crew do not inspire confidence in another. The inspiring of confidence, gaining of mutual trust, is perhaps the most crucial and critical element in the running of any State system, more especially, if it is done through a political process called democracy. Even if the State system is created by a political process called revolution, as in France in the 18th Century or in the Czarist Russia and China in the 20th Century, a bureaucratic system becomes an inescapable necessity for the maintenance of the State system.

The System, both its political part and its bureaucratic part, functions within an environment of values and the question which arises is : whose responsibility it is to create, sustain and uphold the value system. According to our ancient wisdom, it is said: *Yatha Raja Tatha Praja*, which means that *Raja* (the King) has to set the standards for the *Praja* (subjects) to be inspired and to respond.

"We, as a people, only understand individuals, and, at a higher level, we are overwhelmingly concerned with self and its salvation It is this pre-occupation which is destructive of what I might call, a "systemic" approach and of respect for institutions."

If you believe in God and in the stories of creation, then in all the religious books, you will find that God created everything—ocean, skies, the Sun, the Earth, the Moon, Stars and even us, human beings. God being all powerful, could have said that having created the system, He will make it run according to His moods and fancy But the God being, by definition, wise and all knowing, realised that such a whimsical way of running the creation and its creatures, would create chaos rather than cosmos. So he set about organising the bits and pieces of His creation within a system. Thus, we have a Solar system and the all powerful God framed rules and regulations for the governing of the system and though millions and millions of years have passed, the Earth moves around its axis, it travels around the Sun; the Moon has its regulated movement and so on

Our politicians, even when they pretend to be believers of God are blinded by the arrogance of power and by the search for power. They believe that they do not have to observe the rules and regulations, maintain any standards or norms of the State system both in its political and bureaucratic aspect; nor do they seem to be concerned by consistently upholding the value norms without which no political cosmos can hold together.

According to our ancient wisdom, the *Sarkar* (Government or State) acquires legitimacy and respect among the wide masses of people only in the measure it sets high standards which are implicit in the word *Iqbal* and by providing means and mechanisms by which the grievances, the dis-satisfaction and tensions of the Society have the opportunity to express in an orderly manner which is called *Soonwani*.

If there is any truth in all that I have said, then I would say that the disintegration of our bureaucracy, its lapses, both moral and in terms of performance of their duty, are a reflection of the palpable decay of our political system, political leadership and of the value system which ought to underpin the political processes and the politicians The result is that honesty, integrity, commitment to performing one's duty are visibly decaying.

"Our politicians, even when they pretend to be believers of God are blinded by the arrogance of power and by the search for power. They believe that they do not have to observe the rules and regulations, maintain any standards or norms of the State system both in its political and bureaucratic aspect."

In an environment, where the art and science of getting on in life, be it political life, bureaucratic life, life of industry and commerce, consists of circumventing laws, regulations, code of ethics and value system, it is not surprising that bureaucrats contribute their own distinctive quota to the playing of the dirty games. And, indeed, one has to admit that the games are getting dirtier and dirtier.

In ancient times, there was a *noblesse oblige* binding the landlord to the tenant, to the share cropper. There was similar *noblesse oblige* between our great leaders and the masses who turned towards them in hope and reverence. This is no longer obtaining. The *noblesse oblige* is now sustained by money nexus. I should not be misunderstood. The old order had to be changed. But it does not follow that in the course of structuring new order, one could have so recklessly cast away the value system appropriate to the processes of change, be they described as industrialisation, modernisation, secularisation etc.

"In an environment, where the art and science of getting on in life, be it political life, bureaucratic life, life of industry and commerce, consists of circumventing laws, regulations, code of ethics and value system, it is not surprising that bureaucrats contribute their own distinctive quota to the playing of the dirty games And, indeed, one has to admit that the games are getting dirtier and dirtier."

You might ask · is then everything lost irretrevably? My answer is 'no', provided we make a firm resolve to run our State system in accordance with

prescribed rules and regulations and without violating norms of objective evaluation of persons and their performance. Appointment, probation, promotion, transfer, punishment and reward must not only be just and objective, but should appear, at all times, to be just and objective. We must remember that punishment is just when the society as a whole regards it as just. But if we have a situation where punishment is discriminatory and evaluation of an officer departs from the standard of objectivity and is heavily coloured by personal preferances of politicians, we cannot have a functioning bureaucratic system. We shall break it as we have done. In such circumstances, the cleverest among the bureaucrats would appear to be "loyal" but become venal. It would be equally necessary to lay down clearcut policies so that the decision-making process is not fractured by influences operating outside the policy frame. However, most important thing is to generate an atmosphere and to sustain it—an atmosphere that politicians and bureaucrats are partners in building India of our dreams. History has recorded that when a nation loses a vision, civilizations and societies have perished.

"Is then everything lost irretrievably ? Answer is 'no', provided we make a firm resolve to run our State system in accordance with prescribed rules and regulations and without violating norms of objective evaluation of persons and their performance."

About commitment

Finally, about commitment. There is no one in India who is not committed. We are all committed to one thing or another. Regrettably, this commitment is to oneself, to one's own family, to one's community, religion, caste, region etc. We cannot build an integrated national entity of India on the basis of these commitments. We must have commitments to excellence, objectivity in our appraisal system, commitment to integrity and a commitment to the welfare and well being of our people and of our country. Such a commitment must be seen to be observed and translated into deeds by everyone concerned—politicians, bureaucrats, those working in the area of commerce, trade and industry, educationists, mediamen, writers and artists.

"We must have commitments to excellence, objectivity in our appraisal system, commitment to integrity and a commitment to the welfare and well being of our people and of our country."

I must add a word about the quality of our people entering into our bureaucratic system. I have intimate knowledge of men and women in the various branches of our bureaucracy. Their quality is as good as anyone would wish it to be. But their training is ritualistic and mostly irrelevant. And after a few years in service, the idealism with which they join, becomes heavily eroded. It is tragic to see so much of human waste. This wastage is visible even in our scientific community.

Believing as I do that not everything is lost and that given a political will, things can be set right, I devoutly hope that my diagnosis would be accepted. The necessary pre-condition for the healing process is the correctness of diagnosis. And my diagnosis is based on my long experience and detailed observation of how we have, either out of lack of understanding or working on false assumptions, allowed our State system and our institutions to develop within them serious stresses, strains, tensions and cracks.

Bureaucrats vis-a-vis technocrats

As to the last question about the bureaucrats and technocrats, the controversy is misconceived. In my view, technocrats should be as well paid, if not better, as bureaucrats. I also believe that bureaucrats should not be involved in the management and the decision-making processes of our public sector enterprises. I would go even further to state that the management of our public sector enterprises must be freed from the dominance and interference of the ministries and civil servants. If this is done, the basic cause of competition between bureaucrats and technocrats would be abolished. And it is high time that it was abolished.

"Bureaucrats should not be involved in the management and the decision-making processes of our public sector enterprises. I would go even further to state that the management of our public sector enterprises must be freed from the dominance and interference of the ministries and civil servants."

I shall be failing in my duty, which I owe to myself, if I did not point out the ominous implications of the near collapse of the entire administrative structure of Punjab under the impact of the crisis in that State. And if truth be told, the state of administrative structure—Police, Bureaucracy, Intelligence etc.—in the State of Bihar is, if anything, worse. The riots in Bhiwandi has shown that the local police and the administration could not cope with it and thus the Army had to be called in in aid of the civil power. From my own personal knowledge I know that the administration in U.P. and other States in India is no better. The crisis in Punjab which laid bare the anatomy of the decay ought to be seen as an opportunity to sit up, to think and to take serious remedial measures. As the old Sanskrit proverb says that it is no wise to start digging the well when the fire has already started. *(Na Koop Khannam Yuktam Pradipte Vihnina Grihe)*. □

Bureaucrats

They are surely one-up in the game !

P. S. Appu

Blaming bureaucracy for most of the present-day mess-up, Appu questions its integrity and professional competence to help solve problems facing the country. The rampant corruption and the growing deterioration in implementation of plan projects, he argues, is largely due to the fact that civil servants including most at the top level are more dirty than their political masters.

DOWN THE AGES, all people, especially those getting on in years, have shown a tendency to talk disparagingly of the present, and indulge in lavish praise of the 'glories' of the past. This inclination is even more pronounced in a conspicuously conservative group like retired bureaucrats. That being so, despite conscious efforts, to the fair and objective, it is quite possible that my assessment of the goings on in the bureaucracy may turn out to be rather severe But then, history tells us that societies have experienced ages of marked decline and decay when things do set really worse. We are, without doubt, living in such a period of decline. All our institutions are in decay. The values of yesterday have crumbled. The state structure is getting increasingly dysfunctional. There is a pervasive feeling of helplessness, frustration and gloom. In such a situation there is nothing surprising if the bureaucracy too is in a bad shape.

The democratic set-up contemplates different political parties wielding power at different times. Ministers who hold office for short periods often lack the necessary experience and expertise. Hence, a professionally competent and politically neutral civil service is a **sine qua non** for the smooth and efficient functioning of a democratic government. The founding fathers of the Indian Constitution were acutely conscious of the supreme need for such a civil service. That awareness found expression in the pivotal role assigned to the Public Service Commission in matters relating to the recruitment and service conditions of civil servants and the guarantees under Article 311 of the Constitution. In no other major democratic country do civil servants enjoy as much legal protection as in India. It is, of course, quite another matter that despite all the iron-clad guarantees, our bureaucracy has failed to live up to the expectations of the founders of the Constitution. A broad assessment of the performance of the Indian bureaucracy in the post-independence era is that the level of its professional competence has been low, that its higher echelons lack in political neutrality, and, that at all levels it is plagued by rampant corruption.

Low level of Professional competence

A high degree of professionalism is, at any rate ought to be, the dominant characteristic of a modern bureaucracy. The fatal failing of the Indian bureaucracy today is its low level of professional competence. The lack of professionalism is reflected in the growing reluctance of senior civil servants to give frank and fearless advice, the inept handling of the major problems that bedevil the nation, inability to innovate and come up with imaginative solutions to the difficult questions that confront us, failure to keep abreast of modern developments and acquire new skills, slipshod approach to the preparation and implementation of projects, lack of cost-conciousness, dilatoriness, extreme reluctance to take decisions, and above all the unpardonable neglect of routine administration. It will not be possible to dwell upon all these failings in the course of a brief article. I shall just touch upon a few of them.

Though in a parliamentary democracy it is undoubtedly the prerogative of the minister, and in important cases of the council of ministers, to take final decision, the higher civil service plays a crucial role in the formulation of policy. In a few cases the minister may have a broad idea of the poilcy to be adopted. But very often he may not have applied his mind to the question, though he may not be lacking in prejudices and pre-conceived notions. And more often than not, particularly at the State level, ministers have little interest in policy matters. In all cases it is the clear duty of the civil servants to examine thoroughly the pros and cons of the proposal and fearlessly express their views. Three decades ago a substantial percentage of the civil servants conformed to this ideal. But today the bulk of the senior civil servants behave like courtiers, ever on the look out to please the ministers and their cohorts. This is to be greatly deplored because with the sharp decline in the calibre of the politicians in office there is much greater need today than ever in the past of frank and wholesome advice being tendered to the ministers.

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Bureaucracy to blame for poor performance

Another important area where the performance of the bureaucracy has been manifestly poor is that of formulation and implementation of development programmes and projects. Schemes are often drawn up at the national level, particularly in sectors like Agriculture, Rural Development and Social Services without much thought being given to their feasibility, intrinsic worth, social relevance or suitability for particular areas. Very often these national programmes are modified or abandoned at the slightest provocation resulting in a great deal of uncertainty and confusion. And, at the state level projects are often formulated in great haste, almost mechanically, with little attention being paid to the relevant technical, financial and economic aspects. Mind-boggling and protracted scrutiny by the Finance and Planning Departments leads to a great deal of delay but no great improvement in the content of the projects. Strangely enough, once sanction is accorded all the hurry shown at the stage of formulation disappears. In respect of all projects, whether of the Centre or the States, all round inefficiency at the stage of implementation invariably leads to unconscionable delay in completion, poor quality of work and phenomenal escalation of cost. It is one of the ironies of Indian economic planning that while the techniques of planning at the national level have become more and more sophisticated over the years, there has been a marked deterioration in the quality of implementation. A large portion of the blame for this must rest on the shoulders of the bureaucracy.

"A broad assessment of the performance of the Indian bureaucracy in the post-independence era is that the level of its professional competence has been low, that its higher echelons lack in political neutrality, and that at all levels it is plaughed by rampant corruption."

A notable weakness of the Indian bureaucracy is its failure to familiarise itself with modern management techniques, acquire new skills and tone up its professional efficiency. An equally unwelcome feature of the higher civil service is the lack of cost-consciousness. Rare, indeed, is the senior officer who is aware of the crucial significance of the compound rate of interest and realizes that money today and money two years hence are very different things. The typical bureaucrat's lack of cost-consciousness is partly responsible for his well-known tendency to avoid decision making. A large number of top civil servants rue the day they are obliged to take a decision. When it becomes no longer possible to postpone a decision, they invariably try to minimise the imagined risk by roping in a number of their colleagues into the decision making process.

"The lack of professionalism is reflected in the growing reluctance of senior civil servants to give frank and fearless advice, the inept handling of the major problems that bedevil the nation, inability to innovate and come up with imaginative solutions to the difficult questions that confront us."

The gravest failure

The gravest charge against the bureaucracy is that it has miserably failed even in discharging its age-old regulatory functions, Law and order has broken down in large parts of the country, particularly in the Gangetic Valley. People no longer enjoy security of life and property in these areas. The police, whose primary duty it is to protect life and property, has become an instrument of oppression The administrative machinery has come to a grinding halt in some areas, and in a few places, it is on the verge of collapse. Any casual visitor to a Government office will see that routine is thoroughly neglected. A stage has been reached when no citizen can get anything done without greasing the palms of myriad functionaries or bringing to bear considerable influence on the officer concerned. The state of the postal and telephone systems and the railways shows that the organisations under the Central Government have also been affilicted by the same malady. The elementary functions of Government are not discharged with even a modicum of efficiency and honesty. And the primary responsibility for that must rest with the bureaucracy. □

Though, by and large, the bureaucracy continues to be politically non-aligned, a large number of senior civil servants have identified themselves with particular political groups of individual leaders. There have even been cases where they actively helped their patrons during elections. And, of course, all over the country, and at all levels, the bureaucracy has failed to maintain the high standard of objectivity and impartiality expected of it. Few civil servants strive hard to uphold the rule of law or act in accordance with the dictates of their conscience. At the slightest of hints from their political masters, the great majority of civil servants are only too willing to violate any law or rule or well accepted principles.

The corrupt top bureaucrats

There was no time when the bureaucracy was entirely free from corruption. But some thirty years ago there were only very few corrupt men in the higher civil services. The great majority of them maintained high standards of probity, lived within their means and had a holy horror of misusing government property. During the last ten or fifteen years things have changed beyond recognition. Nowadays a large number of bureaucrats accept illegal gratification and a much larger number indulge in peccadillos. The misuse of government transport has become almost universal. The norms have changed to such an extent that today the small minority of civil servants who maintain impeccable standards of integrity, live within their income and attend office driving their own cars are looked upon as prigs or plain fools. Corruption seems to have become as endemic as in the early days of the East India company.

"A large number of top civil servants rue the day they are obliged to take a decision. When it becomes no longer possible 2 to postpone a decision, they invariably try to minimise the imagined risk by roping in a number of their colleagues into the decision making process."

After a brief survey of the scene one comes to the inescapable conclusion that the bureaucracy in India has failed to live up to the level of professional efficiency, political neutrality and integrity expected of the permanent services of a great democracy. A package of perverse personnel policies pursued with cynical non-chalance during the last few years has resulted in the weakening and demoralization of the bureaucracy, particularly of its higher echelons. Today in the higher civil service preferment is seldom related to performance. Fawning sycophants, often lacking in ability and integrity, but, of course, gifted with a plastic conscience and a malleable backbone, get appointed to key posts. Sometimes able, upright and dedicated public servants are deliberately kept out of such positions; occasionally, upright men are even harassed by frequent transfers and other devices. The demoralization that has set in as a result of these developments is so colossal that today the civil service has ceased to be an adequate instrument for implementing government policies or even for conducting routine administration. The public image of the Indian bureaucracy as a thoroughly demoralised, spineless, inefficient, dilatory and corrupt body is by no means unfair or overdrawn.

Where bureaucrats excel !

Most civil servants would say that they are blameless and that the "dirty" politicians are responsible for the sorry state of affairs. This is really a case of the pot calling the kettle black. The Indian politicians must, of course, be held guilty on several counts; but, it is manifestly unfair and unreasonable to blame them exclusively, or even primarily, for the sharp decline of the bureaucracy. The major share of the guilt must be laid at the doors of the civil servants themselves. The unpleasant truth is that in most cases the civil servants have been active collaborators, and not just silent spectators or reluctant accomplices in ruining the civil service.

"The gravest charge against the bureaucracy is that it has miserably failed even in discharging its age-old regulatory functions. Law and order has broken down in large parts of the country, particularly in the Gangetic Valley. People no longer enjoy security of life and property in these areas."

I have said many unpleasant things about the Indian bureaucracy. I should, however, hasten to add that the bureaucracy is not an autonomous institution. It is an integral part of the polity, and bureaucrats constitute a representative cross-section of the society. When the polity is in decline and the society in disarray, as in India today, it is inevitable that the bureaucracy too should be in a bad shape. Hence efforts towards reforming the bureaucracy will be of no avail until the grave maladies in the body polite are set right. The first step in that direction should be conscious, well-concerted efforts to develop accountability in our policies. Once the policy regains its health it should not be difficult to set the bureaucracy right. After all, even today it has in its ranks some people of outstanding ability and integrity. And every year some very gifted young men and women of the new generation join its ranks. By following the right personnel policies and restoring its morale, it should be possible to forge the bureaucracy as a suitable instrument for the tasks ahead □

'It is one of the ironies of Indian economic planning that while the techniques of planning at the national level have become more and more sophisticated over the years, there has been a marked deterioration in the quality of implementation. A large portion of the blame for this must rest on the shoulders of the bureaucracy."

Planners

Yes, the planners too play their dirty part!

Malcolm S. Adiseshiah

In his candid critique, the noted planner narrates the game planners indulge in, firstly, *working out "the growth rate" in the plan period* ; secondly, *inventing the plan area called "the core sector"* ; *and* thirdly, *in the "poverty amelioration" sector deliberately not making clear what this quantitative objective would involve in actual redistributive measure in society with a sustained improvement in the income earned by the poor person.*

IT IS RATHER IMPORTANT, to start with, to define our terms because of the ambiguous connota tion of the major term, 'the Dirty Ones'. Dirt and Dirty connote a state of personal uncleanliness and the normal use of the term relates to a person being unclean through accumulation of insanitary and unhygenic matter on his person. I regard this connotation as ambiguous because the term dirt and dirty in this note (which applies to planners) is used primarily in relation to one's social actions or inactions which result in either not helping society attain its agreed goals; or contributing to the distortion and defeat of those goals, rather than accumulating personal illgotten wealth

The dirt, its three facets

The dirt here is the use of means which do not help attain agreed social objectives or employ means which defeat and distort these objectives. For instance, we have declared ourselves to be a socialist democratic society, and we remain content with the social *status quo* or plan and operate an inegalitarian, possibly an increasingly inegalitarian, society ; we deny democracy by planning the development of society from a central point and not bothering about what people in each locality want or feel they can accomplish. Thus the dirt in the term dirty ones has primarily social and not individual overtones—what one does or does not do about other peoples' well-being, or what one does to reduce their living levels, and only secondarily has it a possible personal dimension, as reflected in some unmerited or unearned personal gain

Another facet of the dirt of these dirty ones is that these social or anti-social life and actions of theirs have a self-perpetuating and a self-accumulating nature. Once a social or anti-social action has been set in motion, it increases and gathers momentum on its own, without any further guidance from the author. Faced with massive poverty, if the means employed to counter it is limited to some forms of alleviating relief with a number of leakages which are sprung on the way to the beneficiary, then the relief programmes will continue from year to year, and from plan to plan because it harms no one, does not in fact bring one person to rise above poverty and it lives on its own justifying rhetoric. Similarly once a permit or a license which was originally devised as a control device to ensure that the country's scarce capital resources flow into the wage goods sector as one social priority, but is in actual fact allowed to help establish some luxury

goods production (for which there is a growing market because resources are concentrated in the hands of the rich consumers), then the further issue of licenses for similar inessential goods|services production becomes a self-regulatory and self-accumulative process

And the fraternity !

A third feature of the dirt which is perpetuated and accumulates in the dirty ones is that the dirty ones tend to form an unspoken or explicit brotherhood to defend their dirt and ensure its perpetuation and accumulation against those who would like to clean the dirt and prevent its reaccumulation This fraternity of the dirty ones is not always a conscious and outwardly bound brotherhood . rather, members of the fraternity are able to recognise each other by the accumulated dirt. In fact the more that dirt, in the

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form of distorting or defeating social objectives, is accumulated, the higher is the status of that dirty one in the hierarchy of dirt. The fraternity itself is formed by and recognised as those who have the dirt and have accumulated it or are accumulating it in various degrees. The fraternity is also most often unconsciously joined together in many ways in defence of their dirt and is opposed to those who have no dirt on them. Here there is the curious fact that the clean ones are the mass of the people who are poor and who are clean, not because they are opposed to dirt (as the means of defeating social objectives as defined earlier) but because they do not have the chance of becoming dirty And it is to resist the swelling of their ranks, and thus devaluing their status, that there is expressed the solidarity of the dirt of the dirty ones

The planner is a technician—usually an economist, a statistician or one who acquires or has acquired these specialisations He is thus basically and by profession a dirty one because he takes as given the social goals and their defeat or distortion, and works out the means, methods, and modalities of attainment of these given purposes and goals I should add that as a planner myself, I am also talking about myself as a 'dirty one'. To expand on this dirty game of the planner, I take three brief case studies

The 3 case studies

ONE

The growth rate !

Let us take the growth rate of the economy on which the attainment of most other social objectives depend The planner is asked to work out the highest possible rate that should be adopted in the plan period. He then works out a rate of 4 7 per cent per annum as the feasible rate but on finding that the base year recorded a—5.2 per cent negative growth, recommends a rate of 5.2 per cent per annum for the five years, without making it clear that the additional 0.5 per cent growth per year represents a recovery to the *status quo ante*, before the year when the negative rate is recorded. He personally explains to the other dirty ones who run the country that this higher rate is based on the negative growth rate of the base year, but both because of the technicity of the explanation and because it is easier to mislead the public, the higher rate is presented as a real development of the economy This planning exercise and explanation has again been repeated this year against last year's low growth rate of 2 per cent. Thus the planner is (possibly an unconscious and|or unwilling) partner in the dirty game of misleading the people of what the real growth rate for the year or for the first four years of the plan is

TWO

The core sector

The planner has invented an area of the Five Year Plan called the core sector and has built a high walled fence around it to see that whatever the rate of inflation during this time period, the real resources going into this sector are maintained at the level at which they were originally conceived. Now what is this core sector that the planner has invented ? One would have thought that following the 10 objectives of the plan, reiterated in the revised 20-point programme, they would cluster around the areas most directly affecting the well-being or ill-being of the people and of society. Such as the health care and nutrition of the people. particularly the vulnerable sections such as the pre-school child and the lactating mother, primary education and adult literacy learning which can enable the child to grow into a thinking and working adult and increase the earnings of the illiterate adult who all belong to the poverty sector, safe drinking water particularly in our 3.8 lakhs problem villages which are the cause of the major communicable disease—water borne illness, and rural housing and house sites for the landless. These are the

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serialised items which constitute the Minimum Needs Programme and it is those items which ought to constitute the core sector to the planner whose task is to suggest techniques and programmes that help society attain the agreed plan objectives.

However what the planner calls the core sector comprises electricity, coal, railways, steel crude and petroleum products, and it is investments in these five or six areas which are safeguarded. They are of course important for the development of industry and agri-

culture of the country, but do not directly relate to human well-being as do the first group of items enumerated. In safeguarding the investment of the core sector as defined by the planner, which has meant increasing the resources that flow into this sector in absolute terms, as has been done in the current plan to the extent of some 20 per cent (in money terms) over what was originally set forth, it has also meant diverting from the real core sector of health care, nutrition, education, provision of drinking water etc. resources to augment the resources of the planner's core sector.

This topsy turvy view !

An analysis of this diversion shows that some 15 per cent of the resources have been taken out from what I have called the real core sector, the human and social well being areas, to what the planner has called the core sector. One rather sorry example of this topsy turvy view of what constitutes the core sector of a society's development was the resistance of the planner to a scheme launched by one of our states to provide all children up to the age 10 at least one nutritious meal at noon every day. This really meant that the children of the poor majority of the state numbering some 52 lakhs were assured of one solid meal. The planners, including myself as a planner, were opposed to this scheme on the ground that the state could not afford the scheme (it cost Rs. 100-120 crores per annum), and became it was diverting resources from the core sector in the state—namely, electricity and power.

And excepting for myself today, all my planner friends are still opposed to the scheme. I have now come to the conclusion that this scheme is at the core of what I call the core sector, because in a situation where poverty will not be eradicated for a long, long time, this scheme of feeding the children of the poor is (a) manageable as against feeding all the poor (who will number five times the 52 lakh poor children), (b) limited in terms of cost as it is less than 3 per cent of the state's annual budget, and (c) is a

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real investment in the future human development of the state. I am now convinced that this will become part of the Prime Minister's 20-point programme in the VII or VIII Plan, a real relief bulwark against the nation's poverty. But the opposition to it and the low priority given to the human and social development programmes is a reflection of the planner's blind eye to the dirt that is accumulating around him in his not realising that he is frustrating the attainment of the agreed human and social objectives of the plan and of society.

THREE

Poverty amelioration

One of the major important objectives of the Plan is the reduction of the poverty in the country. In fact the planners were asked to quantify the effort and on their advice, we have stated that in the five years of the Sixth Plan we will bring 100 million of the 330 million people living in poverty above the poverty line. Th dirt in this matter was in not making clear what this quantitative objective would involve in actual redistributive measures in society, with a sustained improvement in the income earned by the

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poor person. Whether it be through land or some other form of asset ownership which the land ceiling and distribution programme, or potentially the integrated rural development programme, or the more recently launched self-employment of the educated unemployed scheme, or DPAP and SFDA involve.

The further dirt in this important objective is in (a) not making clear that schemes like NREP, RLEGP and the women's and tribal sub-plans do not provide for a sustained effort by the benefiled person who is given some temporary employment which will not bring him above the poverty line on a permanent basis; and (b) the many loopholes and leakages that have been built even into the programmes like land ceiling and land distribution or IRDP, which do have the element of such sustained benefits, but where the leakages defeat the objective of lifting the person above the poverty line

The final *denouement* is when the planner is asked by the political authority to estimate how many of the 100 millions targeted to be brought above the poverty line in five years are actually so lifted above the poverty by the end of the first 2 years when the plan is being appraised, and by using some rather questionable methodology estimates that 57 millions have been raised above the poverty line. The methodology used involves an unreal assumption that the rate of increase of the incomes of the poor majority of society was the same as that of the rich minority, when all empirical studies have shown that in a period of inflation—(in the first year, 1980-81, the inflation rate was 17.1 per cent, and in the second year, 1981-82, it was 18.2 per cent, totalling 35.3 per cent for the first two years), the rate of increase of the incomes of the well-to-do is about two to three times the rate of incomes increase of the poor. The methodology also

assumes that the poor benefited from the general agricultural and rural industrial development programmes, which might be true, but which is not based on field surveys and is more in the nature of a hunch. Thus in the third typical case of poverty amelioration, the planner is made to play a 'dirty game' in (a) ignoring the real limitation of the temporary relief programmes as well as the loopholes and leaks built into programmes which can relieve poverty, and (b) inventing and

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improvising methodology which gives the public unprovable (and probably false) information of the extent to which one of society's basic goals—poverty amelioration—is being attained.

The way out is !

What then should the planner do to get out of being one of the 'dirty ones' playing 'a dirty game'.

One initial—and almost insuperable obstacle—that he faces in this regard is that the planner cannot himself stop being a 'dirty one' in a society where his peers and his superiors are all 'dirty ones' Just as you cannot have a square metre of cleanliness in a surrounding square kilometre of filth, no purpose—except that of a peer and prophet—is served by the planner dissociating himself (except occasionally as an action of last resort, as I will point out at the end) from the surrounding society of 'dirt' in order to maintain himself in an isolated state of 'cleanliness' and 'purity'. In a society dominated by 'the dirty ones', the planner will also be dirty This is the mark of his being in society, serving society, and carrying out the orders of these elected to govern society.

"The planner, more than other members of his social peer group, being conscious about the extent to which the social objectives are being defeated by various legal loopholes and legislative and executive leakages, should from time to time come out into open and expose and make public the 'dirt' surrounding the economic endeavour and distorting social objectives."

ONE

And so the first thing that I would advise is for the planner to realise that he is 'a dirty one', that he is being forced into playing a dirty game. This consciousness of his limitation is important, because his technicity and his technical virtuosity tend to make him complacent with his tools and his working methods, and somewhat arrogant about the models and conclusions that he constructs and derives from them. For instance, from one set of tools, one group of planners derive the conclusion that 52 million people have been lifted above the poverty line. From another set of tools another planner draws the conclusion that only 7.5 million have been raised above the poverty line. Both groups are functioning through a social structure which denies the poverty eradication objective, and to that extent both should be conscious about the dirt surrounding them, and be humble and sceptical about both their tools and distorting and distorted effects they give rise to.

TWO

Second, the planner, more than other members of his social peer group, being conscious about the extent to which the social objectives are being defeated by various legal loopholes and legislative and executive leakages, should from time to time come out into open and expose and make public the 'dirt' surrounding the economic endeavour and distorting social objectives. The planner as an economist is used to making clear the unreal nature of his assumption, such as that other things which are assumed to be given are not given, or that in the long run when certain results are expected to be produced we must also take into effect the fact that in the long run we will all be dead. So too

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he must on occasions and on important social and economic issues tell the truth as he sees it, about the dirt and dust enveloping certain economic factors and results, which are being publicised by the political authority.

AND THREE

Finally, there may be occasions when the planner must dissociate himself from the planning process in order not to be drowned in a sea of dirt and corruption. This would be rare, and hopefully, a one time affair. But the planner's training in digging at the facts and pursuing his analysis till he arrives at what he believes to be truth when set against the implicit and explicit defeat of people's wishes and society's most cherished goal may lead him to withdraw from the direct game of the 'dirty ones'. His consequent social apartness and economic silence is rather a heavy price that he may be called upon to pay. But there may be occasions when his very calling as a planner devoted to facing the stark facts of truth force him into such a position of withdrawal and passivity. When that happens, he is also making his contribution to reducing 'the dirt' and wiping 'the dust' off people and society, which should be his sole guiding star. □

6 DPD/84—3

With self-made rules their game goes well!

Bunker Roy

Says the author, "Too much of intellect and virtually no manual labour has made our planner what he is—impractical but at the same time supremely confident that he is right. He has Western logic to back him and Indian hierarchy to protect him. If the project is successful he gets the credit : if it is a disaster the lower government functionaries are blamed."

BY AND LARGE in a country where the percentage of illiteracy is so high the written word is treated with respect. In a country where excellence, capability and competence is generally judged by the number of degrees you hold there is little doubt the planner is on a very safe wicket. In this game of playing with figures the rules are framed by the planner. He takes many things for granted. If the system, as it is today, has to work and produce results of the intangible kind what needs to be taken for granted, first, is the need to keep a distance so that there are enough barriers to keep you away from reality. It is taken for granted that the planner need not have practical experience : it is enough to sympathise and make up the rest with imagination and sensitivity. It is not needed to have dirtied your fingernails and worked with marginal farmers and agricultural labourers at the village level to understand their problems being a District Collector is enough. There is no need to experience what it is like to go without three square meals a day to be an expert on poverty and to contribute to the confusion over the debate on the infamous poverty line: it is enough to have acquired the competence to calculate economic levels and feign it. It is not the planners' business to spend time in mud huts or attempt to communicate with tribals or drink water from hand pumps or sleep in the open like millions of people in India. Degrees make them special, position makes them inaccessible and vision (however distorted) makes them feel secure.

Immunity from realities !

The system make us immune to realities and we are not willing to shed our preconceived notions that we have picked up from the 1st and 2nd Worlds. We still look there for ideas and formulas. Very subtly but effectively we have been conditioned to show freedom and independence within limitations. We are still

proud that *our* planner has recently returned from the London School of Economics, the World Bank, the UN and other similar grassroot organisations as if this is qualification enough to bring you closer to the poor. Obviously we have lost our self-respect to think independently, to see with our eyes open and to plan with our eyes and ears on the village instead of using it to get a cushy place in some university or international racket abroad. It is shameless how we use the problems of the rural poor for our own personal advancement, to write paper after paper and eventually be called an expert while the condition of that impoverished family in the village remains the same.

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I have seen far too many of these frauds without having done a stroke of honest work in their lives posing as grassroot workers, speaking on their behalf, planning in the air and desperately looking for recognition in their middle age. It is pathetic and sad but that sums up the profile of a planner today

Playing with 'models' !

It is fashionable to plan for the rural poor. It is necessary to play games with 'models' and flow charts and speculate on how people would respond to typical situations—as if it is the easiest exercise in the world to predict precisely how an illiterate impoverished peasant and his family would react to schemes for his own welfare In 15 years in the villages we have not managed to do that. We have not managed to plan one month ahead let alone one year but presumably planners have other mysterious skills village level workers do not have or powers like seeing in the dark. Ask a District Collector whether he has even managed to keep his schedule as he has planned it one day ahead and see what he says. It is virtually impossible with the pressures and with the demands of the community along with calls from the State capitals and visitors dropping in without notice but wanting to be noticed to plan one week ahead. Well multiply that one hundred times without the luxury of regular meals, without security and never free from fear or harassment or humiliation from the very people the government pays to do just the opposite and then visualise the man we are planning for : The planning process has decreed the colossal delivery systems designed to provide Minimum Needs to more than 300 million people living below the poverty line and yet all we have to show after 3 decades is a commentary that clearly testifies to the collective failure of the refined minds of educated men. We have been trying so hard to ram western alien models, management techniques and urban ideas down everybody's throat in the name of rural development and the planning process that it is time we woke up to the fact that it is not going to work. We have to try indigenous alternatives, more Indian, more rural and we must be able to develop it without calling moronic and mediocre experts from outside who are clueless about rural conditions. Do we have it in us to stop playing games ?

Why blame planner ?

In all fairness we should not blame the planner for his impotence. He has been loosely educated in the West but he has been brought up to believe what is right for the country because it has been proved in the 1st and 2nd Worlds so why not in India ? Yes indeed if Japan can do it why not India ? We can go on asking these questions endlessly but I keep thinking of the Block Development Officers in my life where the buck stops who everyone has taken for granted and how we have successfully managed to devalue and destroy this crucial link irrevocably by the planning process. Why do we have such narrow-minded and short-sighted people called planners who cannot see beyond their nose ? This could not be a deliberate policy. There must be a mistake somewhere and it is within us. He comes from a different background. He comes from a different culture. The only thing that makes him Indian is his colour. He admires the West and feels sorry for this country. He is dazzled by technology, impressed by systems that convert a human being into a statistic and a district into a dot. He believes in the Constitution but more than half the people in this country have never seen it let alone read it He believes in human rights and social justice and equality but does not see anything wrong in planning projects that do not take these issues into account, may even violate it in some cases. He expresses horror at the exploitation that is evident between castes, between classes and communities but more often than not he is not willing to take a stand and take action on such issues. He is strongest on economic issues and most comfortable when it comes to calculating 'viability' of schemes. It matters little if it is not possible to implement it but it must look tidy and neat and at least on paper there must not be any loose ends Figures are so real to him that it becomes the last word.

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And his protectors !

Mahatma Gandhi talked of the importance of mixing intellect with labour. Too much of intellect and virtually no manual labour has made our planner what he is—impractical but at the same time supremely confident that he is right. He has Western logic to

back him and Indian hierarchy to protect him. If the project is successful he gets the credit : if it is a disaster the lower government functionaries are to blame. If a formidable and intimidating document is not understood by district level officials and lower government functionaries is it the planner's fault ? If the reasonability of certain schemes and their viability are based on outdated figures and it is impossible to change it is it the planner's fault ? If certain strategies thought of in the corridors of power in Delhi prove to be counter-productive is it the planner's fault ? If there is a growing communication and credibility gap between the planner and the implementer

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who is to blame ? What makes the planner superior ? Why must he have the last word ? What game is he playing ?

Surely the roles need to be reversed Surely the man who implements programmes at the village level need to be given a hearing. In actual fact he suffers from neglect. His channels of communication with the planners are effectively blocked on grounds that 'it must go through proper channels' which, in effect, means you might as well forget it. This, to my mind is the great tragedy in Indian planning : means of communication have been strangled which means reliable and valuable information is not allowed to reach the right quarters. One does not need a degree from a foreign university to come up with a solution at the village level. The planner has this great gift of making simple solutions look complicated. The

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district and village level functionaries have the ability to de-mystify processes and adapt them to be understood by the beneficiaries themselves but such skills are not appreciated. The de-mystification of technology is looked upon as another way of bringing in quackery through the back door and the vested interests are as virulently opposed to it as planners are on the issues of decentralised planning. Any move to strengthen the hands of the beneficiaries of the planning process is effectively scuttled. Any move to recognise village skills, local knowledge and rural wisdom for development purposes is completely outside the comprehension of the planner and it is not likely to receive his support. This is obviously because his practical experience is limited but he will be the last one to confess this deficiency in himself. The planner has in fact set the unhealthy trend of looking on the problems of the rural poor from a global perspective where at least he will be safe. It is a game he knows how to play and where he is at his intangible best.

The aura around him !

What makes matters worse is the aura that the planner has managed to build around himself. If a field problem looks tricky call the expert, the planner. If schools are not running and there is a drop in attendance there is something wrong with the system so call the educational planner He may not have run a school in his life or ever been a teacher but that is immaterial. If there is something wrong with the health delivery system it is easier to call someone from outside to study the problem, a hot shot foreign UNICEF expert perhaps, whose only knowledge of India is that it is full of snake charmers and maharajas. Many a project has seen the arrogance of such expert planners in areas such as the repair and maintenance of hand pumps for safe drinking water, in the design of programmes for women and children

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in rural areas, in preparing plans for the release and rehabilitation of bonded labourers even though they have never met one in their lives. The list where they have the authority to interfere is endless. Their advice is sought on field matters which is one reason why the credibility gap between the government and the people has become so obvious.

"And if I could change things" !

If it was in my hands to change the set up what would I do ? I would make sure the planner stayed a major portion of his time in the village. He need not work with his hands because by the time he gets to some position of power and authority he is no longer as healthy as he should be. But he must observe, he must sit and listen. He must be accessible and speak to people as a human being. He must see his plans being implemented from the other end, see how it is interpreted and distorted to suit the powers that be and then decide right there how to plug the loopholes. If he takes planning seriously he must have the time to see its effects, good or bad. He must refrain from pontificating on the projects he has conceived because he tends to think globaly or nationally and really no one is interested in listening to such projects in the

village. If anything the response of the villagers should help the planner come down to earth, come down to the nuts and bolts of the immediate problems facing them and see how they tackle it for themselves. See how the poor are more self-reliant than the richer half of the village who are more dependent on government: see how the poor actually practice integration without having to create infrastructures. There are lessons to be learnt there that illiterate (but not uneducated) villagers can teach the planner that no books or studies or reports can teach in a lifetime.

The unlearning process for the planner can indeed be traumatic and it takes greater men that we have to want to be changed by someone who he regards as socially and economically inferior. The planner will see how difficult it is to get—what he thinks are too simple to spend time on—pensions, loans, subsidies, inputs, health services, sending scheduled caste children to schools in the interior. One hopes he will realise when he sees it for himself how indifferent the system is to the problems of these non-persons and

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then *may* be he will change and we might see some change in the planning process Right now he has preconceived ideas and plans that must fit or else he rejects it outright.

The planner would also see how figures are collected at the village and block level. There is no competent system that ensures the collection of proper data. It is not considered important. In fact it is taken as a waste of time and functionaries usually sit at tea shops and fill in the blanks. For their own safety and interest patwaris, gram sevaks, cooperative inspectors fiddle with figures and play the game planners play at

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the block level. Multiply that by 5,000 Blocks in this country and imagine the figures, planners are planning with.

And the hope !

It is a game now but it need not be and we have it in us to change it to mean much more. But we are distracted by our selfish ambition to use it as a stepping stone to gain recognition and attention In the final analysis the poor always suffer. There is no urgency and even less commitment. Those who have broken away from the usual way of doing things are considered eccentric within the bureaucracy. Well, if I have to pin my hopes on anyone for planning to have more meaning I would do so on these handful of bureaucrates who are not willing to be dictated to by the system where mediocrity is a qualification. For them it is not a game. In their own way they are setting an example and I think, it is only a question of time before their numbers grow. For the present Mark Twain's words would suffice, "To do good is noble. To tell others to do good is also noble but much less trouble"

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Educationists

Look at the way they soil the field !

P. M. Bhargava

What exactly are the doings of our educationists ? Ask the victims—the student community, pleads the author, a distinguished educationist. "Ask them, *what have they received from the educationists and the academicians of the country ? Guidance ? No. Knowledge ? Good heavens, no. A well-set example ? Perhaps, yes. That is why we have the student discontent, the frustration, the senseless demonstrations and demands, the display of the graffiti on the walls"* !

WHO ARE THEY ? They are, in our country, the college and university teachers, researchers, and educational administrators who run the system—but not the school teachers who are, in fact, the victims of the system.

They are the ones who could be gheraoed. Ever heard of a *school teacher* being gheraoed ? With all his faults and flaws, such as the lowest of salaries and status, he works harder and is generally closer to the students than a university teacher, or a 'higher' academician, is. Our schools are far from ideal—they aren't even sufficient. But, there is some modicum of respect that an Indian school teacher still elicits from his charges, in contrast to our educationists. If a university can today find 10 members of its faculty being truly respected, admired and looked up to by the students, the university must congratulate itself. Even if it did, the chances are that such self-satisfaction will be short-lived. Every one else but the students, will make it hard for the true academician to stay on.

Their origins ?

They come from a highly select population. That wouldn't be bad in itself, but they are uncomfortably "inbred". In a country of some 700 million people, they come—generation after generation—from a group that would today represent no more than 20 million (less than 3 per cent) of our population—some 4 million small, and perhaps, half-a-million large families. In these families, every child, irrespective of what his|her merit is, shall go to school, go through high-school, enter college, finish college, enter university, obtain a degree (usually a post-graduate degree or something equivalent), and get a job. Just look around. Is there any child of a friend of yours in whose family education has not run for a generation or two, or who does not have a degree, or who is unemployed ?

These families represent the affluent, the privileged, the rulers—the group for whom the rest of the 680 million people work. It has been so far a long time with these people. In fact, in our country the most important difference between people is not that of creed, language, state, caste or sub-caste, but that of education or lack of it. We have, indeed, two classes totally apart from one another : the privileged 3 per cent who have had access to education, for generations, and the remaining 97 per cent who have had no access to education, again for generations. From the second group, only about 10,000 persons a year, perhaps, enter the first group. This changes the complexion of neither group; in fact, the value system (to which I shall come a little later) of those

from the unprivileged group who have had the privilege of crossing over to the privileged, educated class, changes to that of the latter. The children of the educated, get educated; the children of the uneducated, remain uneducated. So it has been, and continues to be, generation after generation

What I have said above is borne out by many different observations and facts. For example, we have only some one-tenth as many high schools as primary schools, whereas we should have as many high schools as primary schools. The analysis of the background of all those who enter institutions like the IITs or the All-India Institute of Medical Sciences, or of those who get into the Institutes of Management or into the central services like the IAS, the IFS or the IPS, has repeatedly borne out that a vast majority of them come from a privileged background —the hall-mark of 'privilege' being education in the family.

"Ever heard of a school teacher being gheraoed ? With all his faults and flaws, such as the lowest of salaries and status, he works harder and is generally closer to the students than a university teacher, or a 'higher' academician, is".

Our educationists, therefore, come from the exploiting, the privileged, the affluent class which would include you and me . certainly over 95 per cent of those who read this article !

And their values ?

As may be well predicted on the basis of their origins, the value system of the educationists and the academicians in India is generally that of the exploiting class. Many of them are there just because it is a nice cozy, prestigeous, white-collar job where they can get away without doing much—a job where the output is difficult to measure unlike for a school teacher. They are certainly not there because they care for education or academic work. Indeed, how does it matter ? After all, his children are going to "get educated", get a degree, and get a job—no matter whether they study or not, or deserve it or not. Our present educational system is designed for that. Copying, strikes for lowering of minimum marks, pressures and a variety of ingenious malpractices—there are all these easy alternatives (aided and abetted if not invented by the educationists) to study and learning · for if you come from the privileged background, all that you need is the stamp of a degree, not the knowledge.

Our academicians and educationists are generally not interested in reading, in learning, or in teaching. Check, for example, how many classes does a university teacher take in relation to the number of classes that he is expected to take or he ought to take ? And even if he takes a class, ask the students what does he do there ? How many books of any value he has read in the last five years, or he owns ?

Selfishness all !

The concern for others—for the rest of the 680 million people—is not for them. Their main concern is themselves. The only thing they have learnt, through whatever little education, or rather exposure to education, they have had, is to find an alibi for their own failures. It is the Government's fault. It is the fault of someone higher up; it is the fault of the people, or the system, but never their fault—never the fault of those who have received the most from the society : who have received the greatest gift that man can ever have (the gift of education), and that too at the cost of deprivation of so many others. Indeed, the educated 3 per cent of our population have rarely realised how privileged they are, and that their education had been paid for and made possible by the toil and perspiration of the remaining 97 per cent of the people.

There would be rare few educationists or educated people, who ever feel a sense of responsibility towards those who have contributed to their "success", who ever feel that if the competition was truly open and if the remaining 97 per cent would have also taken part in the process with the same advantages that the educated have had, there would be only one chance in 30 that the members of today's educated elite would occupy the positions that they have at present, for, if anything, the 97 per cent unprivileged are a little more intelligent than the privileged ones. (The argument : intelligence, in a way, is just another name for the ability to cope with an adverse environment. The unprivileged, 97 per cent have been that way for generations—even 100 generations or more. They may have, therefore, been selected for this quality, those who did not have this quality having been eliminated, a la Charles Darwin !)

No, not like that !

You would imagine that our educationists would be secular, would have courage, would associate dignity with labour or would respect basic human rights. Most of our academicians and educationists, and other members of the educated class are, to the contrary, parochial, dowry-demanders, wife-burners, and devoid of any sense of dignity of labour or of basic human rights—excepting, of course, when it comes to themselves. The group of the so-called educationists and academicians in the country have never—not on a single occasion in the entire history of our country after independence—shown courage : they have never taken a stand as a group on any issue.

"Copying, strikes for lowering of minimum marks, pressures and a variety of ingenious malpractices—there are all these easy alternatives (aided and abetted if not invented by the educationists) to study and learning: for if you come from the privileged background, all that you need is the stamp of a degree, not the knowledge"

They have never staked their position and privilege for a cause. They have never fought together for any cause or issue that transcends their interests. Individuals, of course, have, but not the educationists or the educated as a group. Altogether, they are obscurantist, superstitious and tradition bound; they believe in astrology and homoeopathy but not in evolution. There are professors of Zoology (and other scientists) around the country who might teach the theory of evolution in the class but in their personal lives they teach just the opposite—that man was put on this Earth all fully formed by God, as a deliberate act of creation

Exceptions unto themselves !

Our educated are generally exceptions unto themselves Personal integrity and honesty is for others—not for them. They are the ones who would bribe for a seat on the train, file a false income tax return, and take loan from the government on nominal interest to build a house and then rent it out on an exhorbitant rent while living in a highly subsidised government house. They are the ones who would use their power, position, influence and connections for obtaining a job for someone, or a seat in the college for their child, or a reprieve from justice for a gross, deliberate and dangerous traffic violation, and then criticise at the top of their voice everyone else who does so. For, they think the world was created for them, and for them alone. Their desires, wishes and fancies must be fulfilled, for they were born in the image of God, destined for the highest of privileges which they then demand as their birthright. Commitment and concern are not for them—but 'phoren' goods are, as are foreign trips. What wouldn't they do to go abroad —stoop to any level !

"Our academicians and educationists are generally *not interested in reading, in learning, or in teaching.* Check, for example, how many classes does a university teacher take in relation to the number of classes that he is expected to take or he ought to take ? And even if he takes a class, ask the students what does he do there ?"

It is our educated who are the purveyors of corruption and of the most reactionary ideas. The RSS and the Jamaat-e-Islami have more educated people than the Communist Party of India has—just the opposite of what one would find in those countries where education is not a prerogative only of the privileged class.

There are exceptions, of course, to what I have said above and to what follows. I bow to them in respect and admiration. The country does not know what it owes to them. Their life, work and struggles would make a story often more exciting than the ephemeral tales we see depicted on our celluloid. They are the unsung heroes who have valiantly attempted to hold the decaying fabric of education together. But who cares for them ? On the other hand we do everything to make them ineffective.

Their ambitions !

First, let us see what are *not* the ambitions of our academicians and educationists. Truly academic accomplishment is not their ambition. Playing a responsible role in the society so that those 97 per cent of our population at whose cost they have been educated, would benefit, is not their ambition.

"Their main concern is themselves. The only thing they have learnt, through whatever little education, or rather exposure to education, they have had, is to find an alibi for their own failures. It is the Government's fault It is the fault of someone higher up; it is the fault of the people, or the system, but never their fault—never the fault of those who have received the most from the society."

But it is their ambition to go up in the hierarchy. To make money. To have position and authority. No matter how, and at whose cost, and irrespective of whether they deserve it or not. Just look at the number of court cases in which our academicians have been involved. Look at the number of recommendations that are received for the appointment of a lecturer, reader, or professor in a university! Look at the basis on which these appointments are made, and how much (or little) note is taken of merit. How many people do you know who have the courage to resist or ignore such recommendations ? How many people you know are willing to accept that another academician is better than he is—specially if he belongs to a different caste, creed or group ? How many educational institutions there are in which there is a department where the entire staff get along with each other and each one speaks well of the other—where everyone is not trying to cut the throat of everyone else and go up in the hierarchy by the shortest possible route in the shortest possible time, with academic work, and integrity thrown to the winds ?

"The group of the so-called educationists and academicians in the country have never—not on a single occasion in the entire history of our country after independence—shown courage: they have never taken a stand as a group on any issue They have never staked their position and privilege for a cause. They have never fought together for any cause or issue that transcends their interests."

It is the culture of easy life and of public relations that dominates our academicians and the educationists in the country. Their stunted thinking process makes them propose impractical, totally untenable solutions to problems, which they demand be accepted. Their lack of commitment to academic work

makes them do trivial things in their 'academic life', whatever little is left of it. No surprise, in terms of quality we rank very, very low, even though we have the third largest scientific manpower in the world.

Visit the house of an average educationist in the country—say a university teacher. Look at what he reads and what he has in his house by way of books or magazines. You will probably find *Femina* or *India Today*, but if you were to ask him of five serious books (not Perry Mason or James Bond) that he has read in the last five years, he would have difficulty in naming them. He would be out of date in his own area, leave aside in related areas. Yet, he will speak with authority, have high ambitions, and achieve them, being helped by the system which makes a virtue of mediocrity, selfishness and dishonesty, and a vice of excellence, integrity, concern and commitment.

And their doings ?

Ask the victims : the student community of the country. Ask them, what have they received from the educationists and the academicians of the country ? Guidance ? No. Knowledge ? Good heavens, no. A well-set example ? Perhaps, yes. That is why we have

"There are professors of Zoology (and other scientists) around the country who might teach the theory of evolution in the class, but in their personal lives they teach just the opposite—that man was put on this Earth all fully formed by God, as a deliberate act of creation."

the student discontent, the frustration, the senseless demonstrations and demands, the display of the graffiti on the walls ! Indeed, our educationists and the academicians are amongst the largest patronisers of petty politics. If the academic community were strong, if indeed there was an academic community (for, sociologically, a community is a group of people that have come together on the basis of a common commitment conceived in reason, that transcends personal interests, which group uses all its assets to fulfil this commitment), many of our problems, including the student problem and the generation gap, would not be there in the measure we have. If, indeed, we had a community of true educationists and academicians in the county, it would have acted as a major tempering agent in the absurdities of our political process. As of now, we have legislators that our educationists and academicians deserve. Perhaps on an average, there might be greater *literacy* among our educationists than in our legislators and parliamentarians but, certainly, our educationists are no more educated than the legislators and the parliamentarians are !

And the consequences !

The most important of them all is the fact that we have, today, a large number of people who go through the university system who should not have done so. They would have done better in other jobs, even made a mark for themselves elsewhere. Our educational system and the educationists have thus bred mediocrity. On the other hand, we have deprived ourselves the use of 97 per cent our gene pool—the talent contained in the 97 per cent of the uneducated, the unprivileged class. The quality to quantity ratio amongst the educated in the country is, for these reasons, the lowest in the world. This is not to say that we haven't accomplished anything. I have elsewhere stated with a sense of great pride what our accomplishments since independence have been. They

"How many educational institutions there are in which there is a department where the entire staff get along with each other and each one speaks well of the other—where everyone is not trying to cut the throat of everyone else and go up in the hierarchy by the shortest possible route in the shortest possible time, with academic work, and integrity thrown to the winds ?"

have, however, been possible inspite of our educational system and educationists and not on account of them—just as we had a Nobel Prize in science in the 1930s not on account of the educational or the political system of that time, but in spite of it.

Another important consequence is student indiscipline, and student discontent. I have no doubt in my mind that if our academicians and educationists were such that the student could look up to them, a good proportion of such problems would not have existed.

Then, of course, is the fact that the average quality of students that go out of the portals of our higher educational institutions today, is extremely poor. They will be the educationists of tomorrow. So the process is perpetuated, and the class distinction on the basis of education, continues from one generation to the other.

"Their desires, wishes and fancies must be fulfilled, for they were born in the image of God, destined for the highest of privileges which they then demand as their birthright. Commitment and concern are not for them—but 'phoren' goods are, as are foreign trips. What wouldn't they do to go abroad—stoop to any level ?"

Indeed, one of the three or four major causes of our national problems, is the fact that over 95 per cent of our people are not truly educated. This is what is responsible for poverty and deprivation, for disease, for frustration, for the increase in population and, above all, for exploitation. Have you ever seen a truly educated man as bonded labour—or even employing such labour ?

What then the solution

ONE

There is only one long-term solution. Democratise education. Make sure that every child that should be in school, is in school, and that every child who enters school, goes up to the high-school level. One would, obviously, also need to ensure that every child has the same opportunity given to it by the State or by the community as may be given to any other child, in respect of school education (If we take care of school education, higher education will take care of itself.) Therefore, abolish public and private schools, and have only one kind of schools—the State-run schools in the country It is only then that we would be able to force our schools to run well, and the standard of education in the schools would go up.

"It is our educated who are the purveyors of corruption and of the most reactionary ideals. The RSS and the Jamaat e-Islami have more educated people than the Communist Party of India has—just the opposite of what one would find in those countries where education is not a prerogative only of the privileged class."

TWO

Give the *school teachers* what is their long due Give them respect. Give them a good salary Make them the most highly paid persons in the community.

THREE

Nationalise school education and devise curricula, syllabi and text books which make sense, which would, without indoctrination, help in inculcation of a value system—a value system which we all would consider axiomatic. Education has never been value free, no matter what its proponants might have said or continue to say. Those who maintain that it should not be value-oriented, only mean that it should retain the value system that is inherent in it today a value system which ensures that the privileged could retail their privileges, and the underprivileged would stay where they are.

FOUR

And plan for as many high schools as we have primary schools today. Assess what the minimum requirements of these schools would be. I have no doubt that these requirements can be met if we want to meet them. It is well within our resources, especially with the technologies now available. (I have described a possible blue print and worked out the resource requirements elsewhere; P M. Bhargava, *New Quest*, Vol. 15, May-June 1979, pp. 147-158) The question is not of resources or whether we can do it, it is of whether we *want* to do it, that is, whether our educationists want to do it, for doing so will eventually affect *them* and their class.

FIVE

And that leads me to the final point. There are only two other groups of people in our country, who compare with the educationists and academicians in regard to what I have said above : the politicians and the business people (with, of course, notable exceptions as for the educationists). In essence, it is the educated elite-business-politician axis that has been the bane of our country in the last 25 years The above suggested solutions would be utopic unless this axis is broken For that I have no solution, for the axis makes a most vicious circle. The academician or educationist in our country is partly a business man and partly a politician, the politicians and the business men are partly each other and partly educated !

"Another important consequence is student indiscipline, and student discontent. I have no doubt in my mind that if our academicians and educationists were such that the student could look up to them, a good proportion of such problems would not have existed"

Yet I have no doubt, people—our people, the oppresed and the underprivileged—should find a solution, if not today, tomorrow; for history tells us that no oppression can last for ever. It is a great pity that our today's oppressors are, in the Brahmanical tradition, the educated of the country—which "caste" includes the educationists and the academicians

"Visit the house of an average educationist in the country—say a university teacher. Look at what he reads and what he has in his house by way of books or magazines. You will probably find Femina or India Today, **but if you were to ask him of five serious books (not Perry Mason or James Bond) that he has read in the last five years, he would have difficulty in naming them."**

They have corroded the entire system !

Amrik Singh

The basic issue, says this renowned educationist, is that the education system, particularly higher education, has got corroded from within and right from the top to the bottom there is corruption everywhere. It's no use saying, he argues, that corruption exists elsewhere too ! But, then, isn't education different from everything else, he asks.

A QUESTION SOMETIMES RAISED in regard to higher education is : What is the single most important problem that requires to be solved ? All kinds of answers are given I do not propose to discuss the details of anyone of them. Most of them in my opinion evade the basic issue. The basic issue, as I see it, is that the system of higher education has got corroded from within. Corruption has penetrated it from all sides and at various levels. There are any number of structural, administrative and academic problems that require to be solved. But more important than each one of them is the fact that the stench of corruption must be removed from higher education and then alone can one, frankly speaking, grapple with those issues and solve them to some extent.

I quite realise that at one go I have made several sweeping statements. Some of them can be challenged and will be challenged. It is important therefore to be specific and in particular to explain what is meant by corruption.

It is not necessary to quote the dictionary meaning of the word corruption. As a part of one's growing up, one comes to see a kind of relationship between what a person deserves and what he gets. This is not to discount the fact that there are individuals who have an exaggerated, if not also a neurotic, view of what they deserve. Such cases are to be disregarded however. But there are certain obvious facts which must be recognised for what they are and dealt with accordingly. For instance, a university professor has to have some degree of academic training and a certain measure of academic and other experience. When another individual who is distinctly short of these requirements either aspires to be a professor or actually becomes a professor, I would regard it as an act of corruption. Not everybody would agree with this formulation but then it is a matter where agreement is not all that easy. So much depends upon one's point of view and to what extent one is prepared to overlook or condone what perhaps deserves to be nailed down.

Let's pause and ponder !

There is a reason why this particular example of a university professor has been given. In countries where the university system is strong and well respected there is a recognised convention about what kind of a man should be university professor. Attempts to express this convention in the form of a formula cannot always succeed. But this much will be recognised that a university professor is a good scholar, has some experience of guiding research as well as doing research. Not only that, he knows what is happening in his chosen field of study and what is happening on the frontier areas of knowledge in which he is interested.

If this concept of a university professor is applied to what we see around us it would be at once clear that something like 80 to 90 per cent of people appointed to these jobs should not be where they are. The situation has become distinctly worse since the latest UGC provisions of almost automatic promotion after a certain number of years came into force. There are universities where in certain departments there are a dozen professors, two readers and not even one lecturer. This may not be so in every place but the very fact that there are certain institutions where such a thing has come to pass should make us pause and ponder over the situation.

These words coming from an ex-academic would fill a large number of the academics with indignation and rage. I should not be surprised if quite a few hate-letters are written on the subject. But the fact remains that the situation has become pathological. The principal explanation for what we see around us, as I see it, is that we have lost the link between what one deserves and what one aspires to get or actually gets. There are a number of judgements involved here and each one of them can be questioned. What is more, things can never be seen from an absolute angle. Anyone who feels that he is being criticised will discover a dozen precedents, if not more, where much 'worse' people have got what they should not have got. In saying so they would be perfectly right and it is not possible to disagree either with their statement or their perception.

That is precisely my point. Higher education has got corroded from within and right from the top to the bottom there is corruption everywhere. Chancellors who should act with dignity and detachment do not always act as such. Except for a small percentage of those who get appointed as vice-chancellors, the rest just do not deserve to be where they are. The same goes for deans, for professors, for readers and for lecturers. At every level there has been dilution. Dilution would have been a more appropriate word 15-20 years ago. But now there has been a qualitative change and that is why the word corruption is being used My definition of the word corruption is much more comprehensive than what would be ordinarily understood by it. The nub of it lies in the relationship between what one deserves and what one gets or aspires for.

Well it is different here !

Corruption does not originate in education. For the most part, it begins elsewhere and penetrates education. It is difficult to define 'elsewhere for anything outside education is elsewhere. There is so much of corruption outside education that there is nothing

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particularly surprising about the infection having spread to education as well. But then an important part of my argument is that education is different from everything else.

Education is what prepares us for life. If we get corrupted in that process it follows almost as inevitably as day follows night that in later life too the same corrupt approach would govern the greater part of our conduct and mode of action. Though originating elsewhere, corruption in its various manifestations pervades education all along the line. This happened quite sometime ago, so that from one end to the other education is now riddled with corrup Those who enter life through the channel of ec tion, and one is talking mainly about them, carry infection with them. In a sense, thus, the cyc complete. Corruption may have started elsewhere because it has already affected education and ed tion in turn is the channel of entry for a large r ber of people into life, the circle may be said to been completed. To blame any individual or any g of individuals or even an institution would not l The fact of the matter is that the entire blood tem has got infected.

"The principal explanation for what we see aro us, as I see it, is that we have lost the link betw what one deserves and what one aspires to get actually gets. There are a number of judgements volved here and each one of them can be questione

This tragic phenomeno

A more relevant uestion to ask would be · h is this situation to be taken care of ? There is clear answer to it. Anyone in education will tell that the rot begins elsewhere and they are the v tims To quite an extent they are right also But do one know of anyone in any station in life who is p pared to admit that it is for him to take the initiati and put an end to what is happening ? Everyo shifts the responsibility to another One can go arou the whole circuit and nobody would be prepared accept the proposition that it is for him to break t chain. Whether it is the politician or the administr tor or the teacher, it is all the same; everyone has t same answer. Everyone blames everyone else. Nobod is prepared to accept the proposition that by refusin to play the game, so to speak, he would be breakir the chain.

But the chain has got to be broken somewher Ideally speaking, regardless of what others do or d not do, everyone should do the correct thing so tha there is no taint of corruption in what is done. On has to first deserve and then desire. It is the lack c alignment between the two which creates problems There is nothing novel about this correspondence between one's deserts and one's achievements. The Buddhist concept of *dharma* embodies this very idea In European terms, when Plato talks of justice he toc is saying almost the same thing What the Gita says is another version of what is under discussion. Any deviation from what one deserves and what one gets creates a kind of imbalance in social and legal terms and that is what takes the form of corruption.

Thus far and no further

In concrete terms, one has to look at the mode of admission, the mode of instruction in the classroom, the examination that is held at the end of it and it is clear beyond doubt that each one of these steps is far from what it should be. The whole procedure of the training, selection and recruitment of teachers who

are to play the key role is tainted by considerations which cannot bear too close a scrutiny. Elsewhere I have analysed this phenomenon as an example of the middle class virus. The fact of the matter is that this virus has infected every other walk of life. Everyone in education therefore says : how is it our duty to be virtuous when others, more or less one and all, choose to be wicked ?

My answer to this question is that the imperatives of the profession so demand it. Those of us who have opted for education, knowingly or otherwise, opted for a profession where there is hardly any room for chicanery or wickedness. What we do does not remain confined to us. It gets transmitted to those who come in contact with us, i.e. our students. In plain words, through our questionable conduct we become the carriers of an infection. If we do become the carriers and do infect others, the question to ask is : can we afford to take an indifferent view of our responsibilities ? The truth of the matter is that the question is seldom asked and that is how we have been drifting over the last quarter century or so.

Somebody at some stage or the other has got to say : thus far and no further. In my opinion, the one profession which is obliged to adopt this posture is the profession of teaching. When teachers act and behave like 'others', they are ignoring the social consequences of their profession. Teaching is not a profession which is practised in private or for one's self. It is not like acting or architecture or any such profession where the skill of the individual is all important and the social dimension does not count. There are several professions where the social impact is immediate and unmistakable. Journialism, for instance. In all such professions which have social overstones the consequences of what one does cannot be ignored. To ignore them is to almost turn one's back on one's profession

This examination business !

A good deal of what has been said is in general terms. This means that either not everybody will understand what is being said or people will agree and yet not get the point in clear and unambiguous terms. It would be helpful therefore to take at least one concrete example of what is being said

In our country we have tremendous faith in the examination system that has evolved over the years. Most attempts to change it have been in terms of the American practice of assessment by the teacher. Almost each one of these attempts has misfired. Outside the IITs and the agricultural universities, the only university which tries to adhere to it is the JNU. One has only to talk to some of the more candid teachers to get a measure of their disenchantment with the system. Not only that, the system of public examinations has received an extraordinary degree of endorsement during the last few decades. Aware of its limitations and its defects, as a large number of people (both academics and others) are, they still regard it as the lesser evil. Why ?

The only answer is that it is conducted anonymously and therefore there is no question of any subjective element being at work. Could there be a worse form of self-condemnation than this that we distrust assessment made by our colleagues in their own name but are prepared to rely upon it almost blindly if it is made in an impersonal manner ? Whatever be the explanation for it, this is the stark truth and for the last several decades despite all the brave attempts made to change the system we are stuck with the system and likely enough this is how it would be for quite some years to come.

For the crooked alone !

Equally deplorable is the corruption that takes place in regard to the conduct of examinations. One does not have to offer evidence for what happens. Everyone who has gone through college or university knows what is happening. In certain places the situation has deteriorated to such an extent that the honest individual is at a serious disadvantage and it is the crooked and the wily who prosper. Others are left only with the satisfaction that they acted with honesty.

Clearly it is an impossible situation. Honesty is at a discount and crookedness gets all the plums. How do we solve the problem ? To seek to solve it by everyone choosing to become crooked is not to solve the problem. As individuals this may be the impulse of a very large number of people. But functioning on a corporate basis and in terms of a social policy no one can put forward this course of actn as the one that is to be preferred. If the problem is to be solved it is only to be solved through everybody acting with due honesty and integrity.

The climate of opinion has become so cynical however that to talk of upright conduct is to invite ridicule. It is not difficult to understand why this should be so. In personal terms, such a response is regarded as a mark of weakness of vaccilation or lack of assertion or even worse. In terms of social conduct however, can anyone recommend a different approach to the problem ?

To talk of corruption in higher education, and that is the area about which I feel qualified to say something, is not being rhetorical or sensational or some such neurotic mode of behaviour. It is to recognise the situation for what it is. Higher education has no meaning unless there is a ceaseless pursuit of excellence and education has no meaning unless it is based on an honest kind of relationship between what is learnt and the manner in which that is assessed.

Once these two imperatives are recognised, everything will fall in its place. Students will work to the best of their capacity and teachers will work as they should. If these two things start happening, corruption will take care of itself. Corruption is nothing more and nothing less than getting more for oneself than one is entitled to. And this derives from a state of mind which regards a spot of honest work as a badge of shame.

Professionals

The protection of an exploitative order!

Justice V. R. Krishna Iyer

Our power-elite which practise the high callings, says the distinguished author, control, and corner, with monopolistic hold, the modern expertise without which the planned development of the nation may be a medieval process, philistinic failure and democratic disaster. And adds, "we have no option but to mandate that the professions shall, be permitted to operate only if they consent to a functional commitment to the common people--the bleeding plebian sector, not the pampered patrician segment."

I REPEAT....... THAT ALL POWER is a trust—that we are acountable for its exercise—that, from the people, and for the people, all springs, and must exist.' (Disraeli). This fiduciary imperative is implicit in the creedal phrase of the Preamble to the Constitution . "We, the people of India." Our power-elite which practise the high callings, learned professions and popular vocations, however, control and corner, with monopolistic hold, the modern expertise and complex know-how without which the planned development of the nation may be a medieval process, philistinic failure and democratic disaster. So, we have no option but to mandate that the professions shall be permitted to operate only if they consent to a functional commitment to the common people—the bleeing plebian sector, not the pampered partrician segment And yet, in fact, with exceptions whic prove the rule, the professions and the people ar distant neighbours reminding us of the Shavian barb All professions are conspiracies against the laity.

Plea for a radical reorientation

The benign potential of the intellectual groups organised into various professions, to advance th welfare of society is a great blessing if it can be actualised on a people-oriented, progressive basis. The dynamic rule of law, in its democratic militancy and as defender of the little Indian's political, civil, cultural, economic and social rights, will remain verbal bombast, as it does today, unless the legal profession in its colossal numbers, stands by the people, spread legal literacy, battles for equal justice and transform the system through the democracy of judicial remedic and other creative processes which reach the lowlies and the lost.

A national health plan whereby every member c our many-millioned society will be assured of at leas minimal medical care and basic health facilities wi be an idle dream unless the medical profession i geared to this sublime goal Social medicine *sans* pro fessional participation with ideological commitmer makes no sense. To house the poor, to electrify vi lages, to build rural communications, to industrialis the country and strengthen the public sector of th economy we need the hearty involvement of th engineering profession

An educational revolution reaching down to th masses and responding to the value radicalism of th Constitution cannot succeed unless the academia i inspired to crusade for the cause We can multipl areas of national development where the intellectua

community, with special skills and high expertise, must be the sappers and miners of progress with dedication to the masses. The new ethics of the professions with the people factor in the forefront, their 'appropriate technology' tuned to third world conditions, their democratic partnership in the life processes and welfare concerns of the larger, lower bracket of the community and their creative militantisation of the heart and head of every expert body organised as a profession are what I regard as of the essence of the change the change from the elites colonial mentality and monetarist morality currently polluting the many professional echelons and common cadres, to the developmental commitment to, and spiritual identification with, the urban and agrestic underprivileged who constitute human India.

Even scientists as professionals have to reorient themselves Society's needs, not market economy morals, are the dominant strand in the movement called 'professions for the people' high on the democratic agenda of the nation And equally important is the demand to shed our colonial heritage in the professional genetic code Disraeli once said "The key of India is London' It is a pity, even today, that this is largely true of our professions.

A hangover from the past !

If I may repeat myself for emphasis, India's elite specialists, as a hangover from the past, have with simian skills, adopted anglo-philu fashion and the professional ethics and working methods of their Victorian British counterparts than whom, in our colonial outlook, 'none higher sat' But the upper bracket clientele are *not*, constitutionally speaking, the people who grant exclusive title to practise professions The real constituency which matters in a Socialist Republic under Third World conditions is made up of men of humbler means We have, therefore, to do a social audit, from the performance angle, of the canons and commitments, consciousness and capabilities of all the professions, set distortions right and unfold fresh creative horizons—because the Raj rules of conduct and the Republic's fiduciary imperatives are almost at logger heads

"And yet, in fact, with exceptions which prove the rule, the professions and the people are distant neighbours reminding us of the Shavian barb: All professions are conspiracies against the laity."

Revolutionary mutations, beyond British Indian traditions, is the price any Indian professional monopoly has to pay because the radical values writ into the Constitution furnish the new parameters—absent when Britain ruled over us and urgent when Independence gave dynamic meaning to development. Old 'conducted tours' of professional training, temper and technology, with an eye on the purses of the rich, lead us now to wrong destinations because, as ment should not be develop things, but to develop ment should not be to develop things, but to develop Man'—Indian Man.

The 'people' fact

The democratic imperative to be impressed o modern professions is the 'people' factor—duty t the common man that legitimises the power the social estates legislatively enjoy, and the *raison d'et* of the exclusive monopoly the laws confer on suc title-holders of expertise is the deep commitment, se vice-orientation and skills tuned to community need They must possess beyond the old art and craft they mastered for the benefit and interests of th

"We have, therefore, to do a social audit, from th performance angle, of the canons and commitment consciousness and capabilities of all the profession to set distortions right and unfold fresh creative hori zons, because the Raj rules of conduct and the Repub lic's fiduciary imperatives are almost at logger heads.

Establishment which cornered their ingenious techn ques, at the expense of the commonalty at a pric beyond the reach of the little man and, not unofter bent to outwit the welfare policies of society.

The pattern of skills and the pickled ethics, i short, the genre and texture of the learned and liber professions, display affinities, attitudes and empathi antagonistic to the forward goals and large objectives regarded as the living logic of the Thir World A radical rupture with the traditional cu ture of the older professions without pandering t the Moneyocracy, is 'a consummation devoutly to b wished', in the current, corrupt Indian context. Pos tively speaking, a humanist technology geared to th development of the people, a progressive profession mettle socialist in vision, a principled people-con cious code with priority to social justice, a discipline cadre with unsullied character and pollution-resista probity—that is the scare commodity in the India professional market

The constitutional mandate of equal fundament rights is conditioned by reasonable restrictions *in th interest of the general public*. Our Republic expec every profession to do its duty but to whom ? To th only national constituency viz 'the people of India This ideological transformation and constitution compulsion obligates the esoteric members of mon polistic professions to conscientize their perspective humanize their expertise, sensitize their tools, accep public accountability and cultivate a social philosoph and democratic creed tuned axiologically to our So cialist Secular Democratic Republic. That is the fin genius and conceptual implication of professions fo the people

What is a profession

What is a profession ? It is necessary for clarity th we define our terms : Roscoe Pound in the 'Lawye from Antiquity to Modern Times' (1953) states :

> "There is much more in a profession than traditionally dignified calling. The ter refers to a group of men pursuing a lear ed art as a common calling in the spirit o

public service—no less a public service because it may incidentally be a means of livelihood. Pursuit of the learned art in the spirit of public service is the primary purpose."

Justice Brandeis (U. S. Supreme Court) applied three criteria to a profession :

ONE

A profession is an occupation for which the necessary preliminary training is intellectual in character, involving knowledge and to some extent learning, as distinguished from mere skill.

"The myth and the truth, however, mock at each other, the higher standards of community commitment are often skin-deep and winning one's case by means fair or foul soul-deep. The era of decadence has not spared any 'noble' calling."

TWO

It is an occupation which is pursued largely for others and not merely for one's self.

THREE

It is an occupation in which the amount of financial return is not the accepted measure of success.

There is no doubt that definitionally, law, medicine and accountancy, among others, are liberal professions Theoritically, public service motivation and intellectualised expertise for community good are dominant, with a discipline and high ethic to guide their exercise, and income for the practitioner and material success for one's client being lesser values in the scale. The myth and the truth, however, mock at each other, the higher standards of community commitment are often skin-deep and winning one's case by means fair or foul soul-deep. The era of decadence has not spared any 'noble' calling.

The paranoid bane of professionalism !

Self-interest versus public interest, exploitation of exclusive right to practice by catering to the higher economic brackets, unconcern with Third World clientele, 'untouchability' and 'unapproachability' of the liberal professions vis a vis the *daridra narayanas* of society, and principles and policies which sound sublime, read majestic and profoundly humanistic in paper rhetoric and yet, in actual application, prove functional futilities, teasing illusions and promises of unreality—such is the paranoid bane of Indian professionalism, be it law, medicine, accountancy or other. Social Justice, in its democratic sweep, is a distant neighbour of elite professionalism. Jimmy Carter, while he was President of the U. S., observed, at the centenary of the Los Angeles Bar Association :

> "We are over lawyered... .Lawyers of great influence and prestige led the fight against civil rights and economic justice.......They have fought innovations even in their own profession. .Lawyers as a profession have resisted both social change and economic reform "

The other professions also share these views and function as the serfs of the rich and powerful. The problems of the poor are of no concern for the professions. *They do not matter*

What collective therapeutics can inject a 'commitment' consciousness, in the learned callings, to the community, its weaker sections, in particular ? What ombudsmanic regulation by bodies, which include high-level outside elements, to deal with professional delinquency, what attunement of tools and techniques relevant to the invisible but immense 'dalit' humans, what crusading operations against the anti-social segments of society, can we innovate to create the value radicalism expected of our professions ? Such is the broadly democratic, militantly socialistic connotation of Art 19(6) 'The survival of the fittest', as a concept meaningful to our backward economic milieu, must be oriented to the developmental needs of society The stark fact is that often the leading cadres of every profession shape their arts to patrician breeds and politician's needs and shy at the vast human sector hungry for social justice.

The vision and the mission !

While professional ideals look attractive, highbrow intellectuals, appetised by lassiez-faire philosophy, sell their mental skills and occupational prestige at the best market price Who but the tycoon, the mafia, can be the highest bidder and why ? A dynamic dialogue, with focus on the millions not the millionaires, a structural change in the professions which activates the new popular ethics and catalyses their community dedication, that is the creative call to the higher vocations The little man will soon awake to his *Kundalini shakthi, govern* the governors, judge the judges, audit the auditors, police the police, doctor the doctors, socialize the morals and conscientize the processes of lawyers, auditors, doctors and so on This is the vision and mission of the movement styled. 'the professions for the people', which desiderates systemic change, not individual altruism A Good Samaritan soul must incarnate in the corpus of each profession, and a cultural revolution, essentially Indian, must shake and shape the professions to infuse a spiritual urge to rescue the *Kuchela*, ignoring the 'Kubera' not by moralising sound and fury, not by 'Mareecha' rhetoric, but by conscientious effort

"The stark fact is that often the leading cadres of every profession shape their arts to patrician breeds and politicians' needs and shy at the vast human sector hungry for social justice."

to promote the progress of the nation through people-oriented skills and resources of which the great professions are a large reservoir. This is the least social justice every profession owes to the Republic which is but symbolic of the humble humanity of India.

Can't serve two masters !

The thrust of my thesis is that professions cannot serve two masters at once--the classes and the masses, the proprietoriat and the proletariat. Jesus and Judges, the deprived 'pandavas' and the grabbing 'kowravas'. A militant movement within the professions must create a consciousness of the ideology of "professions for the people" and professions with a patriotic commitment to Indians. We want movement professionals, geared to the Indian social specifics.

"Each profession, even the judicial robes and barrister's silk, must stand scrutiny for service to the people not defend itself by medieval estate theory. What applies to judges—the most awesome profession with 'contempt' power to punish critics—must a *fortiori* apply to lesser callings."

The right to practice any profession is a creature of the Constitution which 'we, the people of India', enacted. No profession can be permitted to play Frankinstein's monster with the Indian Union. A brief glance at Art. 14 and 19 clarifies the issue.

The high-brow cult of professionalism builds barricades against entry by others who may be non-professional and para-professional, resists social inspection of capability, integrity and performance accountability, and fights exposure of tycoon tie-ups and unsocial ethics. Public Law must insist that every public profession does justify itself for exclusive passport for practice in the new setting of democratization, socialization and developmental compulsion.

Not that the role of custodians of better expertise or occupational specialities should not be recognised or respected but that social justice desiderates that insulated vocational protectionism, statutory or other, now enjoyed by the professions, shall not hurt the community, even if draped in tall ethics and 'efficiency' trappings. Professional simplicity and democratic monitoring and methods that meet the needs of the small man must be built into these callings, their disciplines, claims and practical workings. 'In the interest of the general public' is the password to constitutionalize the established callings. Monopolistic vocationalism cannot survive constitutional screening except on the score that professional expertise is for the people's happiness and welfare.

The cult of the robe !

Each profession, even the judicial robes and barrister's silk, must stand scrutiny for service to the people, not defend itself by medieval estate theory. What applies to judges——the most awesome profession with 'contempt' power to punish critics—must *a fortiori* apply to lesser callings. Here is what Judge Jerome Frank says about the judicial profession, now being judged even in our country : "The robe as a symbol is out of date, an anachronistic remnant of ceremonial government. An immature society may need or like to fear its rulers, but a vital and developing America can risk full equality. A judge who is part of a legal system serving present needs should not be clothed in the quaint garment of the distant past. Just as the robe conceals the physical contours of the man, so it needlessly conceals from the public his mental contours. When the human elements in the judging process are covered up, justice operates darklingly. Now that the Supreme Court has declared the judiciary a part of candid democratic government, I think that the cult of the robe should be discarded". The Bar too must remember that its members must make out a *prima facie case* for the monopoly it enjoys and re-organise the profession into a public sector which ensures human rights and remedies against human wrongs to the weakest and the protestant. Public law demands of public professions public commitments in public interest and disrobes it of its mystiques.

The Constitutional dimens[illegible] the professions. their social responsibilities in a[illegible]istic society *vis a vis* their closed door policy whe[illegible] professionals are a people's need-these and other allied issues have not been explored in the specific setting of our country. If undertaken, the outcome may be risky for the monopoly of the professions now enjoyed under statutes, unless creative mutations are wrought.

The Constitutional guarantee !

Article 19(1)(g) guarantees the title of all citizens to pratice any profession or to carry on any occupation. Nevertheless, the State may impose by law professional or technical qualifications, provided such restriction is reasonable and in interests of the general public. If the law degree is shoddy, if the medical qualification is hardly better than quackery, if para-professionals can do better than dubious degree-holders, if attorneys and accountants and apothecaries are anti-social in their working, if the learned skills are useless to the commoner like the butcher, the baker and the candle-stick maker and are at the cunning call of the smuggler, the racketeer and the big tax-dodger or abet, the illegal operations of the corporate sector. I wonder whether Art. 19(6) will salvage such professionalism from the competition of lay talent. Profession for the people is a *sine qua non* of constitutional survival. Intellectual call girls of the establishment draped in professional costumes cannot escape brain-scan by the Constitution.

"A judge who is part of a legal system serving present needs should not be clothed in the quaint garment of the distant past. Just as the robe conceals the physical contours of the man, so it needlessly conceals from the public his mental contours."

Our medical profession is excellent and can do open heart surgery and kidney transplant as well as their U. S. counterparts. But social medicine, preventive medicine, endemic disease in the backward-most regions, especially the tribal belts—these life problems of the common people are not exactly their professional concern. The up-shot of this discussion is that a radical transformation in the social order of our country, contemplated in Article 38 of the Constitution, inevitably demands a corresponding transformation in professional perspectives with emphasis on Third World imperatives.

And our need today !

The professions need new social engineering structures and strategies to fill the bill of social justice.

"A dynamic dialogue, with focus on the millions not the millionaires, a structural change in the professions which activates the new popular ethics and catalyses their community dedication, that is the creative call to the higher vocations."

New professional structures must arise from the practical needs of the new clientele Lawyers' Collectives. Public Interest Law Firms, Poor People's Lawyers, Barefoot Lawyers, Lawyers' Public Sector, National and State Free Legal Services Authorities and so on Tax incentives, other facilities and public distinction for successful work by such socialised professional personalities and bodies must be organised. Likewise, in Medicine Medicos' Collectives, Barefoot Doctors, People's Medical Co-operatives, Free Clinics, Medical Foundations for Free Treatment of the Weaker Sector, Social Medicine Specialists, Tribal Diseases Therapists, Slum Health Care Volunteers and so on.

Auditors too must break out of the corporate stranglehold and traditional methodology and self-centred culture, and innovate Accountants' Collectives with rural bias, developmental specialisation and new ways of helping small men in managing the finances of their ventures Ends are means. So, when service to the People becomes the end of the Professions, means to match must bloom into existence-structurally and technique-wise. This too is a dimension of the Professions for the people movement.

"The little man will soon awake to his 'Kundalini shakthi', govern the governors, judge the judges, audit the auditors, police the police, doctor the doctors, socialize the morals and conscientize the processes of lawyers, auditors, doctors and so on."

A structural revolution !

What we need therefore is a structural revolution and a methodological revolution tuned to the constitutional revolution Conceptually 'professions for the people' is a new dedication of our higher occupations and a nationalist tryst of the intellectual community. A militant movement, driven by radical humanism, is the locomotion of social transformation. The dialectic of Indian economics and the dynamic of Indian development desiderate this commitment to the people.

The fairy tale of professional autonomy and ethical myths cannot beguile the people because the learned and noble professions *in action* abet the social injustice of an exploitative order Today, this esoterica is suspected of serving the Barabbasque private sector with expert sharp practice. A spiritual shift in the centre of gravity of the privileged and prestigious professional estates is a 'must' so that their arts and orientation, their creativity and commitment may be

"The thrust of my thesis is that professions cannot serve two masters at once—the classes and the masses the proprietoriat and the proletariat, Jesus and Judges the deprived 'dandavas' and the grabbing 'kowravas'."

worthy. Therefore, professional packydermy, as a colonial syndrome, has no Indian future. Tomorrow belongs to conscientised sensitivity to the disabilities of the masses as the strategic focus of the great professional classes □

"Professional simplicity and democratic monitoring and methods that meet the needs of the small man must be built into these callings, their disciplines, claims and practical workings. 'In the interest of the general public' is the password to constitutionalize the established callings."

It's all a money making racket today !

Soli J. Sorabjee

Lamenting over the sharp decline of professionals—lawyers, doctors, architects, engineers, chartered accountants, journalists—the author while exposing their dirty deeds warns, "If a victim of injustice and oppression cannot obtain adequate legal services because of the prohibitive cost; if a patient in pain and misery cannot find a doctor to cure or relieve him of his suffering, then surely George Bernard Shaw's indictment that all professions are conspiracies against the laity has been proven true."

THIS IS AN AGE OF linguistic distortion Nations whose governments trample upon the basic human rights of their citizens and constantly violate the rule of law proclaim themselves Democracies Persons who preach hatred and violence in the name of religion to achieve purely political ends are termed 'Sants' and are soon regarded as saints. People who have acquired special skills at the expense of the rest of the society and whose sole aim and practice is the amassing of wealth, by means fair or foul, call themselves Professionals

Alas !

"The purity of language is defiled;
The meanings have turned traitor in night."

It is worthwhile turning to dictionaries once in a while. Webster defines profession as "a calling requiring specialized knowledge and often long and intensive preparation including instruction in skills and methods....... .and comitting its members to continued study and to a kind of work which has for its *prime purpose the rendering of a public service*" (Emphasis added).

Roscoe Pound summed up the matter with admirable aptness when he said, "Historically, there are three ideas involved in a profession : organisation, learning, and a spirit of public service. These are essential The remaining idea, that of gaining a livelihood, is incidental."

Today the expression "profession" is not confined to the law, medicine and the clergy. It takes within its sweep architects and engineers, chartered accountants and cost accountants, journalists and photographers, nurses and musicians, and the like.

Is politics a profession ?

Curiously the Supreme Court has considered the practice and pursuit of politics as a profession and held that a politician is a professional. But that was in the context of the provisions of the Income Tax Act. No one would seriously consider a politician as a professional any more or any less than one would extend the term to a member of the oldest profession.

There is nothing objectionable about the extension of the term "profession" so long as we do not forget or obliterate in practice one fudamental fact : a "profession" is not a money getting business; it has no element of commercialism in it.

It is not suggested that professionals live on love and fresh air and should not charge for their services. A

"People who have acquired special skills at the expense of the rest of the society and whose sole aim and practice is amassing of wealth, by means fair or foul, call themselves professionals."

professional needs to make money like any other person. He seeks to live by what he earns but his main purpose and desire should be of rendering service to those who seek his aid and to the community of which he is a necessary part. In some instances, where the client is wealthy large fees, not excessive or extortionate, may be received. But to those unable to pay adequately, or not at all, the professional service should be freely and cheerfully given. In fact the difference between business and profession is essentially that while the chief end of business is personal gain, the main goal of a profession is public service.

A money making racket !

Unfortunately in actual practice this basic truth has been rudely thrown overboard. Professionals, seem to operate on the law of demand and supply. As far as the legal profession is concerned, the forces of crass commercialism have overtaken it by and large. It has become a money making racket. Staggeringly huge fees are charged and the bland justification offered is "the client is rich and can afford to pay the fees". Lawyers staying in hotels run up huge bills for entertaining all and sundry at the client's expense and see nothing wrong in it because "the client is rich and can afford to pay". Worse still the thought of rendering free legal service to the needy and to those who cannot afford expensive lawyers does not enter the hearts and minds of the successful ones. The idea that professionals are for the people and not vice versa sounds like a strange and alien doctrine.

The most unfortunate part is that this virus of commercialism has infected the younger members of the bar especially the junior advocates on record. There are of course a few exceptions, but the majority of the junior members are actuated and driven by only one compulsive thought—to make as much money as possible within the shortest possible time.

"Unfortunately in actual practice this basic truth has been rudely thrown overboard. Professionals seem to operate on the law of demand and supply. As far as the legal profession is concerned. the forces of crass commercialism have overtaken it by and large. It has become a money making racket."

Today the fees charged by juniors, after making allowance for inflation, far exceed what was charged by seniors two decades ago. The thought that the profession has certain social duties and responsibilities and that it is meant to serve the people is absent from their minds and indeed they show little recognition of what is meant by the "service ethic" of dealing with a fellow human being's needs without consideration of self-interest.

Common man their victim !

This social dimension of the various professions becomes a very relevant issue when we look at the manner in which their services remain by and large inaccessible to the common man, particularly in a poor country like ours.

The assumption of our legal system is that all citizens have equal access to means of legal redress. In practice legal services of all kinds have gone to the highest bidders. The wealthiest persons and corporations receive the highest quality advice. The

"In fact the difference between business and profession is essentially that while the chief end of business is personal gain, the main goal of profession is public service."

poorest in the society, the "third world population" receive negligible or very haphazard and poor legal advice. The term "third world" is used as an all-inclusive label for the powerless, exploited elements of society, the depressed minority groups, welfare recipients, ex-colonial, colonial, and neo-colonial "native" populations, the proletariat, and the peasants. It also includes society's "deviants"—prisoners, mental patients, radicals, dissenters, and homosexuals, among others, as well as the powerless

groups generally, such as youth, women and the non-conformists.

As far back as 1905, one of the most distinguished American jurists, Brandeis, said, "The leading lawyers of the United States have been engaged mainly in supporting the claims of the corporations. Able lawyers have, to a large extent, allowed themselves to become adjuncts of great corporations and have neglected the obligation to use their powers for the protection of the people."

Alas, the situation in 1984 is not very different. By and large, successful lawyers have been defenders of the established order and of entrenched interests, because in a society dominated by commerce and industry, individual and corporate owners of property have been their principal clients. If this trend continues, the lawyer will eventually be reduced to an inferior and despised status in society.

If I have spoken mainly of the legal profession, the reason is that I belong to it and the price one pays for pursuing any profession is to obtain an intimate knowledge of its ugly side.

And these doctors !

The spirit of service and sacrifice which was formerly evident in the medical profession is also sadly

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on the decline In many cases poor patients would rather die than pay the extortionate fees of medical practitioners. I recall a typical case of a middle class working lady whose son was admitted to a hospital for treatment. The doctor in charge would cheerfully say good morning every day to her and her son, spend a few minutes chatting with them and then leave them alone. The lady was very pleased at the doctor's friendly and human behaviour till she received the bill in which each of these involuntary visits was heavily charged for.

One hears in anguish about doctors who after having operated upon patients refuse to undertake further treatment unless their fees are paid in advance. False medical certificates can be had for the asking especially to help litigants to obtain adjournments in courts or, if the price or the fee offered is a fat one, to help smugglers who have been detained, to have better facilities during detention.

I am sure there are honourable exceptions. The trouble is that these are exceptions and the problem is to convert these exceptions into the general rule.

The urgent need for all the professions is to become people-oriented and to reorient themselves towards the service of the people. Otherwise there is a growing danger of the professions becoming irrelevant for the majority of the public. This trend must be arrested.

Unfortunately the real malady is the catastrophic decline in our sense of values. Today we are afraid

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of simple words like goodness and honesty and kindness. We do not believe in the good old words because we do not believe in the good old values any more and that, according to the Chinese philosopher Lin Yutang, is the reason why the world is sick.

Today's scene reminds one of Wordsworth's lines :

"...Our life is only drest
for show; mean handiwork of craftsman, cook or groom
We must run glittering like a brook
In the open sunshine, or we are unblest
The wealthiest man amongst us is the best
....
Plain living and high thinking are no more."

If a victim of injustice and oppression cannot obtain adequate legal services because of the prohibitive

"Today we are afraid of simple words like goodness and honesty and kindness. We do not believe in the good old words because we do not believe in the good old values any more and that, according to the Chinese philosopher Lin Yutang, is the reason why the world is sick."

cost; if a patient in pain and misery cannot find a doctor to cure or relieve him of his suffering, because he cannot afford it, then surely George Bernard Shaw's indictment that all professions are consipiracies against the laity has been proven true.

All this must be changed. A strong, persistent and determined drive has to be launched to inculcate proper values amongst professionals and to make them rededicate themselves to the service of the people.□

Preachers or screechers!

K. A. Abbas

So says Abbas Sahib, "it is difficult to write about them all in a single article. I suppose there are enough Voluntary Sweepers in the Gandhian spirit in our society who will tackle the other groups, so I will tackle only the preachers (religious) and God-men, God-women and God-children who are proliferating pseudo-spiritual 'filth' and pseudo-mystical 'dirt' and thus confusing the already confused minds of our people".

THE OBJECTIONABLE AND DIRTY "preachers" of different (known and unknown) religions are more aptly described as Screechers They are assuming names like Mahaacharya and Brashtachaarji Maharaj, Khadimul-Imaan, and Apostle of the Gospel; they screech (like a broken gramophone) their Message in some strange language which goes above the heads of their congregation, but, during their screeching, drop hallowed names like Rama, Krishna, Buddha, Mohammed or Christ, with great familiarity and affectionate informality, as if they were their bosom pals; they speak even about the infinite God or Bhagwan or Allah as if He was their *yaar*!

Glamour of Godhood !

For instance, I heard one of these screechers say with pontifical eloquence, "Brethren, I saw the effulgence of my *friend* glowing with a peculiar glow, shining with a strange shine, it was the glitter and glamour of Godhood. It was Beauty unseen in the world's beauties, whether it is the beauty of Hollywood actress Hedy Lamarr or the alabaster face of Marilyn Monroe, much less of Indian stars like Vyjayantimala or Zeenat Amaan"

Another (*Fidayee-Paighambar* he called himself!) was screeching, "*Insha-allah, maasha-allah*, when the Prophet saw the face of God, it was Beauty Personified, beyond description, it was un-imaginable Heavenly beauty not seen in this world, glowing with the *tajalli* of *Allah* ! *Allah O Akbar*." And the audience of five thousands roared the incantation of *Allah O Akbar* three times.

Or take the case of the black Christian pastor who was screeching, "Blessed are the Kings and Queens of Heaven who may also be seen on Earth by the great ocean of Christian compassion! The angels, Ibraheem and Serapheem, blessed be their souls, fluttered their sacred wings with heavenly music coming out of their fluttering . . . . ."

There is humour, too, in their speeches at the cost of socialism and communism, and other such concepts like secularism and rationalism but never at the expense of capitalism, *poonjiwaad* or *Sarmayuadaari*! They choose their butts of satire looking at the pot-bellies of their clients—sorry, disciples!

One of them chose the subject of his lecture, "SAMAJWAAD SE SAVDHAAN". It was very popular with the Sethias and industrialists of Bombay who simply loved the saffron-clad one.

"There is humour, too, in their speeches at the cost of Socialism and Communism, and other such concepts like Secularism and Rationalism but never at the expense of Capitalism, *poonjiwaad* **or** *sarmayaadaari!* **They choose their butts of satire looking at the pot-bellies of their clients—sorry, disciples!"**

They come to the princely abode of their host in a limousine in which the rear seat was covered by a tiger skin, the God-man's hand carelessly caressing the beast's ferocious (but lifeless) head The precious foreign-imported limousine was driven by a young female who was assigned this duty by the Sage. She wore a sleeveless *choli* of skin-coloured silk Or, may be, she was his industrialist host's own daughter doubling for the Mystic's *chauffeur*, and, being fashion-observant, she duplicated her dress, because the Great Spirit had said in so many words that any other *chauffeur* in any other dress would disturb his *Sdhana* and closed-eyelids *dhyaan* (of course, the eye-lids are not entirely closed and every few seconds he squints them open to allow a glimpse of the tantalizing back of the fair *chauffeur!*

When the Great Spirit descends from the chariot (of course, it is not a chariot but a foreign-imported limousine a silver foot stool is placed beside the door of the car from which the sandal-wood *Khadaon* (wooden sandals) of the Great Spirit falls on the red narrow strip of carpet which extends to the lift which is already fragrant with *agar-battees* (joss-sticks) and draped in red velvet which is the Great Mystic's favourite colour.

From the ground floor the lift takes a long time to reach the top terrace, the sick and the crippled are lined up for the Great Spirit's *darshan* on each floor where the lift halts, who have been promised just a second's grace of the Master Spirit's renowned healing glance.

No *lip-stick* allowed !

Meanwhile, the Great Spirit's saffron-clad Secretary (naturally, a girl of aristocratic lineage) loudly warns the audience that the Great Spirit cannot stand the smell of Soap, Face Powder, Lipstick and Gas passed per rectum, therefore those who are using any of these cosmetics or liable to pass GAS per *rectum*, should remove themselves from the Great Spirit's nasal range which is calculated to fifty feet of the dais A few well-scrubbed, well made-up women and two or three fat men got up to be out of range of the Great Spirit's great sensitivity!

Then a temple bell rang to announce that the lift had arrived at the terrace floor after distributing healing glance of grace to the afflicted on twenty-seven floors.

The guessing game

There was a *Muslim* 'healer" reputed for his clairvoyance and therapeutic touch. You did not have to tell him anything except two numbers, one of two digits and the other of seven digits, and His Grace did the rest for you. He also expected you to think of a Flower, the names of three saints, and three dishes which one liked. And he would ask *you to write it on* a piece of paper which, after elaborate folding-up he would put inside the pages of the Holy *Quran*. Then he would look at you for a few minutes in silence and then proceed to reveal all that was secreted in the folded paper. The trick was that he communicated the name of the flower, three saints and three dishes of your choice (actually *his* choice), while looking at you before you made-up your mind

So I didn't know why I wrote the names of "Bu Ali Shah *Qalander, Guru* Nanak and Sant Kabir-except that hypnotically he had made me write these names The rest was simple enough. He assured me that my chronic Cold would disappear in two days—it didn't even after a month As for the *Cancer* patient, he did not live to make any complaints—he died on the seventh day When the God-man was asked about it, he said, "I am not God! I to'd him your troubles are going to be over in a week—and, they *were*!"

You can't argue with a faith-healer! He knows what to say to whom—and when! The simple-minded flock to him in large numbers, offering him seven rupees *nazrana* (offering!) to assist him.

"GOD-MEN" are not very different. Perhaps some of them also take the help of Hypnotism, Mesmerism, Yoga and Tantric tricks, and even gadgets.

"GOD-MEN"—how the name stuck to them, I do not know Perhaps they were always known as such. But it is definitely of foreign, Anglo-Saxon origin. The hyphenated God-men suggest a hyphenated connection between GOD and Men It is certainly not a transla-

"Genuine or spurious, God-men have come to have a mystic halo round their heads—the phrase describes them! There can be no mistaking them—for instance "J. Krishnamoorthi" cannot be called a "God-man" because I don't think he believes in God, nor has he ever mentioned 'God" in his lectures. He would have been a God-man if he had stuck to the destiny that Madame Blavatsky had ordained for him, but he revolted against it"

tion of some Hindi or Sanskrit word or phrase—Guru, Sanyasi, Rishi, Maharishi, Sanyasin, Holy Man, Fakir, Dervish, all have different connotations.

"Men of God" ?—but all men are "men of God"—certainly the phrase cannot describe such rare species as God-men!

Genuine or spurious God-men have come to have a mystic halo round their heads—the phrase describes them! There can be no mistaking them—for instance "J. Krishnamoorthi" cannot be called a "God-man" because I don't think he believes in God, nor has he ever mentioned "God" in his lectures. He would have been a *God-man* if he had stuck to the destiny that Madame Blavatsky had ordained for him, but he revolted against it and became a philosopher and Master of the English language. He is sometimes mistaken for one, because part of the audience that comes to hear him also goes to hear 'God-men"!

Money-minded

God-men (specially the spurious ones) are different, though some of them are glib enough to be mistaken for the oratory of Krishnamoorthy! Oratory is one thing—pseudo-oratory is quite another, though often the one is mistaken for the other!

One thing that always characterizes the spurious God-man is his money-mindedness, or success-mindedness which is one and the same thing, because with Success comes in Money and Power! Marble air-conditioned palaces (though they might be called GUFAS air-conditioned for the foreign seeker's comfort because, after all, he pays for it in Dollars and Marks!), Aeroplanes (though, in the parlance of the Flying Gurus, they might be called Vedantic and Vedic GARUDS), foreign air-conditioned limousines for travels along Indian roads that threaten the chasis at every step. But the grace of the Infinite God protects the Ashram (more like a Palace!) and the vehicles, the same that provide the foreign-donated cars. He who provides also *protects* and *preserves!*

Besides there are other signs of the God-man. He has got a *monastery* (*Ashram* is too common a word!) where, for 25-dollar a day a GUFA can be hired for air-conditioned *dhyaan* of the foreign disciple. Or if he is a *plebian* steker of Vedantic Truth he can pay 15 dollars a day and stay in the dormitory with five other people—but they will all be foreigners

A Foreigners' Canteen is thoughtfully provided by foreign-returned Great Spirit where, for five dollars a meal, he can get a thick steak (over-done or under-done) and a pair of doughnuts for a dollar! Or two

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dollars for Sweet Yoghurt—the food of the Gods! The Monastery (not *Ashram!*) is located at the foot of the Himalayas for the comfort and convenience of foreign disciples—the main concern of the God-man!

God-women

God-woman is the female alternative of God-man! But hitherto no God-woman has risen to the material success or spiritual international renown of a God-man! But still God-woman is a God-woman, though she is of *Indian* origin and local fame.

There was one God-woman in Central India, who achieved world-wide fame because she got involved in a murder case but when she appeared in the court, she was in the altogether! Stark naked—except for her bewitching smile, she did not have a stitch on her! The shapely youthful breasts were partly covered by her extra-long black tresses, and the vital parts were covered by the flowers in the extra-long garlands that her disciples hung round her shapely neck. She was a sight even for jaded film-photographers!

There are other God-women who are not naked like Truth, but who are dressed more conventionally in white or saffron robes. Some of them have preached (or *screeched*) in air-conditioned Bombay Halls, and undoubtedly they are a big draw.

Packed halls always greet their appearance There is an appeal (sex-appeal?) in their voices which magnetizes the disciples Their dark tresses (always open to create the *jogan* effect) and, unlike their masculine alter-egos, they are not allergic to strong perfume or smell.

God-child!

And why not?

After all the legends of Lord Krishna are legion. . His childhood antics have enchanted hundreds of thousands of women, besides Radha!

There is a God-child who lives in America He came to India with a large retinue of men, women and young girls to enhance the legends of Krishna and the Gopis!

But soon he had to leave India and return to the hospitable shores of U.S.A. because in India there were more than one scandal, involving something to do with narcotic drugs and breach of Indian Currency regulations

That was the last we heard of the *God-child*

But doubtless there are others lurking in almost every district of India, and in the more superstitious ones, there must be more than one!

These are not called *God-children*. But they are venerated like Gods!

They are the proofs of the Theory of Re-incarnation—if proof were needed!

They are supposed to recite Sanskrit *mantras* from their childhood, and remember bits and pieces of their past life—or lives!

They are well-tutored by their guardians to make a fast buck for them. They can make predictions, read *janam-patries*, pray for those in distress or financial troubles They are supposed to possess certain powers—which make them oblivious to Newton's law of gravity.

Big broom needed

So these are the *screechers*—the God-men, God-women and even God-children who all spread cob-webs of superstition in our superstition-ridden land.

We will need a very big broom—of Reason and Rationality and Science—to get rid of this 'dirt' from our midst! □

As Buddha spoke of these miracle-makers !

Debiprasad Chattopadhyaya

Questioning the basic moral sanction for demonstration of miraculous power, the author says, the earliest to face the question was Gautam Buddha who came out with a striking answer to it. For him, as the author quotes from the Pali **Vinaya-Pitaka**, *it was as disgusting as the prostitute showing off her body for attracting her clients. And Buddha, adds the author, prohibited the trick for his followers.*

I shall begin with a simple question. It is concerning miracles, or, more specifically, concerning the demonstration of miraculous power The way in which the materialists answer it is, of course, well-known. But they are usually branded as bad fellows and trouble-makers whom it is best for the pious people to avoid.

So let us not reiterate here what they have to say Nevertheless, the question of miracle remains Even those who are renowned in history as profoundly pious persons, did find it necessary to raise it.

One of the earliest of them was Gautama Buddha He did face the question of miracle and of the demonstration of miraculous power. And he came out with a striking answer to it. For him it was as disgusting as the prostitute showing off her body for attracting her clients. He prohibited the trick for his followers.

As told in 'Vinaya-pitaka' !

This is told in the Pali *Vinaya-Pitaka* in which the Buddha formulated the codes of conduct for the monks. His judgement on the miracles comes at the end of a narrative, which is really exquisite for its simplicity. We may as well quote it in brief outlines.

"Now at that time", as the narrative begins, a merchant at Rajagriha acquired a piece of very precious sandal-wood. And the merchant thought : "How would it be if I were to have a bowl carved out of this block of sandal-wood, so that the chips shall remain my property, and I can give the bowl away ?"

So the merchant had a bowl turned out of that block of sandal-wood, and put it in a balance, and had it lifted on the top of a bamboo, and tying that bamboo at the top of a succession of bamboos, he declared : "If there be any saint possessed of miraculous power, let him get down the bowl. It is a gift to him."

A number of persons renowned for wisdom went, one after another, to the merchant and asked for the bowl. The merchant told each of them : "If, sir, you are a saint possessed of miraculous power, let your reverence get down the bowl". But none of them could get down the bowl.

Now at that time, two of the Buddha's close followers went to Rajagriha in the usual round for collecting alms. One of them was Maha Moggallana, the other Pindola Bharadvaja Both having been saints and possessed of miraculous power suggested to each other the proposition of getting the bowl. Eventually it was agreed that the latter was to have it.

Then the venerable Pindola Bharadvaja, rising up in the air, took the bowl, and went thrice round Rajagriha

in the air. The merchant with his wife and children, saw him in air and begged him to descend on his dwelling place. When he came down, the merchant filled the bowl with costly food and presented it to Bharadvaja. With this, he proceeded to the camping ground of the monks

He was followed by a large number of men who, amazed by his performance, were shouting loud and long. The Buddha heard them shouting and asked Ananda what did all this mean. Ananda told him

"You are not, oh monks, to display before the laity the superhuman power of miracle. Whoseover does so, shall be guilty of an offence Break to pieces, oh monks, the wooden bowl, and when you have ground it to powder, give it to the monks as perfume for the eye ointment."

about Bharadvaja acquiring the merchant's bowl with the aid of his miraculous power.

And the Buddha rebuked!

Then the Buddha, on that occasion and in that connection, convened a meeting of the brotherhood of monks, and in the meeting asked Bharadvaja whether all this was really true The monk admitted that it was so.

Then the Buddha rebuked him, saying : "This is improper, Bharadvaja, not according to rule, unsuitable, unworthy of a monk, unbecoming and ought not to be done. How can you, Bharadvaja, for the sake of a miserable wooden pot, display before the laity the superhuman quality of your miraculous power? Just, Bharadvaja, like a woman who displays herself for the sake of a miserable piece of money, have you, for the sake of a miserable wooden pot displayed before the laity the superhuman quality of your miraculous power."

And when he had rebuked him, and had delivered a religious discourse, he addressed the monks and said "you are not, oh monks, to display before the laity the superhuman power of miracle, whosoever does so shall be guilty of an offence. Break to pieces, oh monks the wooden bowl, and when you have ground it to powder, give it to the monks as perfume for the eye ointment."

So that is what we read about the Buddha in one of the earliest and most authentic of the Buddhist canonical texts which the Pali *vinaya-pitaka* certainly is

Whether the Buddha believed in the actual possibility of attaining miraculous abilities is not the point of our discussion Evidently enough that is not the point of the discourse either. The narrative designed to introduce the Buddha's sermon takes no doubt the possibly for granted. But the real purpose of the narrative is quite different. It is to illustrate the Buddha's attitude to miracle-making The question posed in it is basically an ethical one. Even admitting the possibility of attaining supernormal powers, how far are the monks morally justified in making a show of it in demonstrating before the public the capacity for super-normal performance ?

The surmon delivered by the Buddha leaves nothing vague about his own answer to it. From the view point of the conduct of the monks, i.e. from the standpoint of morality as he wanted it to be practised by his closest disciples, it is indeed a serious offence And it is also stinking, specially because the demonstration of the miraculous performance is generally intended to ensure some material benefit for the performer. That is why the Buddha compared it to the woman exhibiting her body just for the sake of a few coins. That is why the Buddha wanted the precious sandal-wood bowl to be samshed into dust though, wisely enough, also recommending that the dust could as well be used far medicinal purposes Evidently, he had nothing against the sandal-wood dust itself which could be obtained, and, as a matter of fact, was obtained, by the brotherhood of monks by other methods, as is evident from the long discourse of the Buddha on medicaments embodied in the *Vinaya-Pitaka* But that is a different point altogether which hardly concerns us for our present discussion

Now the question is . ?

We are ourselves separated from the Buddha by over two thousand and five hundred years Much that was part of the accepted folklore of his times have ceased to have anything more than historical—and perhaps also anthropological—interest What, nevertheless, continue to be profoundly important for the contemporary context are the essentials of his teachings The Buddha is not really dead for us That is why, so much is made today to be clear about his message.

The modern scholars are perhaps yet to be unanimous about all aspects of his teachings Nevertheless, what is simple and direct about his moral views cannot be missed: there is often a piercing clarity about it At any rate the one we have just quoted has this quality

It has moreover a very direct bearing on our own problems. We have some practising God-men in India today. They want to create an awe among the

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people with demonstration of their miraculous power There are also attempts no doubt to expose them as sheer charlatons, with certain amount of the jugglar's tricks. For the present, however, I shall raise only one question about them It is the question of the basic moral sanction for their performances. If we agree to learn from the teachings of the Buddha, we can hardly see any such sanction Or the sanction is there only in the sense in which it exists for the prostitutes showing off their bodies just for the sake of a few coins □

Business men

Business is dirty business!

Mohit Sen

So puts the author, "It is in Monsieur Verdoux *that Charlie Chaplin makes one of his grand and enduring statements. When a prostitute is shocked by the methods used by business men to get on, the maestro simply tells her, 'business, my dear, is a dirty business'! That just about sums up the whole business!!".*

THERE IS A REVIVAL of interest in the films of Charlie Chaplin But so far in India two of his masterpieces have not been screened again One is *Limelight* where his genius lifts what is a common theme of the decay of age to the level of tragic sublimity. The other is *Monsieur Verdoux* which is a sharp and cruel satire on the essential thrust of capitalism—the poison of profit.

It is in *Monsieur Verdoux* that Chaplin makes one of his grand and enduring statements When a prostitute is shocked by the methods used by business men to get on, the maestro simply tells her, "business, my dear, is a dirty business" ! That just about sums up the whole business! !

Readers would remember certain other celebrated statements on the same theme. You have the French socialist Proudhon who startled readers in his days by declaring "All property is theft" Balzac was even stronger when he wrote "Behind all great wealth there is great crime" And, of course, there was Marx who in *Capital* wrote that a French writer had said that money comes into the world with a congenital bloodstain on its cheek. Marx added that capital comes into the world covered from head to foot with blood and dirt.

The "smalls" getting big !

In a certain sense and speaking personally one grew up in an atmosphere where this approach or orientation was part of the air itself. But that it was not the romanticism of youth one discovered in the otherwise sobering reality of living and working in free India. One saw and even experienced how some "small" people became big and heard what the modern executives had to recount about the exploits of their masters.

There was a neighbour who began by cycling from home to work and to friends. Then he was able to latch on to the "milkpowder gift" racket. In a few years he had two houses and drove around in a repainted Mercedes. Looking around one discovered that he was not by any means unique While he was on the climb and thereafter also he would be derided but acceptance and respect also came with each higher rung of the ladder.

There was a sensitive manager who headed the outfit of a very modern and Westernised big business house in one of our metropolises. The name of game there at that time was "premature voluntary retirement" of the employees so that modern sophisticated office equipment could be installed. The manager was upset by the obvious distress of many employees passing into the middleaged years. But just in case he became sentimental telex message came from the supremo at headquarters. It told him to remember that as human employees grew older in service they became more expensive while machines became cheaper with the years thanks to depreciation ! So in the interests of the company sympathy had to go along with sacking !

This is also not an isolated instance. Anybody who knows anybody who is anybody in business concerns of whatever shape and size would be able to replicate this experience.

This cutting of corners and treating of human beings as objects from whom surplus has to be extracted is the mode of existence of the business species-being. This was so in the past and is so now. This is so in California and it is so in Manipur.

Historical perspective !

But what has changed in the historical context. However distressing and disgusting such mores may be for any decent being, there was a time in history when the bearers of this approach to life and living were the masters of production. They were the chief organisers and protagonists of an unprecedented advances in not only material production, they were the leaders of revolution in thought ranging from scientific discovery to democratic political processes. In the first flush of their historical emergence their peak-level representatives were men of incredible energy and universality of interest. It is an irony of history that the most inhuman of all social formations and classes also were the original creators, practitioners and propagandists of humanism. Even at that time there was a *Lakshman Rekha*, a line of limitation and constriction to all this. And that was the pursuit of profit and the defence and spread of the system based on it. Hence, for example, the slave trade. Or in our country, the cutting of the thumb and forefingers of the weavers of Dacca muslin.

"And has not Chalapati Rao put it on record that one newspaper magnate told him that he had committed every conceivable crime. "Even murder ?" the then Chairman of the first Press Enquiry Commission enquired. But came the reply, "the spirit was willing but the flesh was weak !"

This did not last too long if one goes by the historical time scale. Its very contradictions produced its opposite in the shape of an ideology and movement—socialism. And since 1929 when, as Jawaharlal Nehru wrote to Indira Gandhi at about that time, there came a new magic word—planning—from the country of socialism. The significance of this magic was that it was precisely an alternative to the so-called magic of the market place. It was an alternative method of economic development with an alternative ethos. It was the future and it worked. And the socialist movement from a theory became an experiment in social development and then a success story. With that ended history's debt to the species-being whose private vices had been something of public virtues.

India's tragedy !

In India the tragedy for our country and also for our business men is that they came to maturity precisely at a time when on the world historic scale their species-being had become not only obsolete but an obstacle. Their methods were not only played out but a throw-back. And before they could cut their umbilical cord which connected them with feudalism they had acquired the sclerosis and even senility of monopoly. Before, as it were, they could begin to learn the ways of profit through exploitative production they had acquired the taste for profit on alienation. They had not given up moneylending when they took to speculative cornering of stocks. Yet they hung on and still hang on. Yet the myths of their indispensability and superiority are spread.

Jawharalal Nehru was amazingly accurate when he said decades ago that the socialist way of development is the only way for India's progress. This was not because he was personally attracted to the ideals and civilisation of socialism but because there was no other way of what is at times called growth with social justice. The mixed economy certainly gave room to the business men and their houses. But they have not used the space provided. What is more they have betrayed the trust reposed in them to act as pace-setters and innovators.

The 'stubborn' things !

ONE

Let us look at the facts which, as once Stalin said, are stubborn things. One of the important "contributions" that the business men have made to India's economy is the spread of sickness of industrial and commercial enterprises. Who are the owners of the 'sick" units which the government has to take over ? Is it not a fact that life insurance and general insurance companies had to be taken over because the private owners were simply playing ducks and drakes with the life-savings of the middle classes ? Is the experience with private financial saving institutes any better now ? Is it not a fact that there was literal slaughter of the coal mines and coal miners which made nationalisation indispensable ? What about the textile mills' land being more of an asset than their productive equipment ? Where else in the world have powerlooms vanquished factory production ? But a wonderful part of the scenario is that it is the industries or enterprises which turn sick—the owners remain healthy and move on to fresh pastures.

"This cutting of corners and treating of human beings as objects from whom surplus has to be extracted is the mode of existence of the business species-being. This was so in the past and is so now. This is so in California and it is so in Manipur."

TWO

From "sickness" let us pass to the less fevered area of simple cheating. Many in the higher realms of authority are often inclined to flaunt the certificate doled out by the World Bank testifying to the health of our economy and the efficiency of their managers. But what about the World Bank study which has given us the proud privilege of being the country with the largest amount of black money in the world ? It is estimated to be around Rs. 40,000 crores ! What about the previous Finance Minister Chavan's outburst of

two parallel economies in India—the official and the black money one? What about the present Finance Minister's uncontested charge that some thousands of crores of taxes due are simply not paid through the device of litigation? What about the fraudulent use made of the provident funds of the workers and employees? What about the fact that *benami* has become the synonym for business in India.

"In India the tragedy for our country and also for our business men is that they came to maturity precisely at a time when on the world historic scale their species-being had become not only obsolete but an obstacle. Their methods were not only played out but a throw-back. And before they could cut their umbilical cord which connected them with feudalism they had acquired the sclerosis and even senility of monopoly."

THREE

From cheating let us pass to the "legitimate" use of state funds to build one's own empire along with one's dynasty. The editor has insisted on banning the use of names. So let my examples remain unnamed though, perhaps, not unknown! But leaving all the other aspects apart why this fuss and furore about the LIC exercising its simple right as a shareholder? Was not Prime Minister Indira Gandhi perfectly right when she said that in India private enterprise is neither so private nor so enterprising? What should be added is that they are quite enterprising in thriving on the funds of the public exchequer! What needs much more probing is how they are able to attract such funds.

FOUR

We can go on from here to making profits by restricting production Are not shortages artificially created? Why otherwise, for example, do the newspapers carry the announcement that the government is releasing more sugar from its stocks so that private business would unload stocks that it is hoarding? How much better it would have been for private business if production had so drastically declined that the government had no stocks to unload? There are more cruel examples like lifesaving drugs not being available because the production of sometimes useless, sometimes harmful brand name formulations are more profitable to produce. Here our business men are only imitating their counterparts in other countries. Do we not have reports of some governments giving subsidies to restrict production? Are not oranges thrown into the Pacific Ocean in California, coffee beans burned in Brazil and butter stored to rot in caves in Europe?

FIVE

The Vivian Bose report

Then comes the practice of giving perks and jobs not to the boys in general but immediately to one's intimate family circle. Here one would advise readers to look up the Vivian Bose report on the Dalmia Jain group of companies. The learned Judge gave the following example. He stated that once when a new company was started a well-known promoter made his seventy-year-old mother its chair-person. Naturally the old lady appointed her son as the managing director. But as the company began to move to failure what did the now even older lady do? She dismissed her son from the managing director's post Justice Bose thought this unnatural. But on deeper investigation he found that gratuity, compensation and the rest gave the sacked son a rather large nestegg The learned Judge acidly commented that in general it is profitable to be employed but in the case of Indian Business it was evidently more profitable to be dismissed!

SIX

Finally, about the methods used not only against outsiders but one's own family when it comes to making yet more money Shyam Benegal did a creative work but did not produce a fantasy in his *Kalyug*. Those who doubt it can go to certain exclusive areas in Ahmedabad, Bombay or Madras. And has not Chalapati Rao put it on record that one newspaper magnate told him that he had committed every conceivable crime "Even murder?" the then Chairman of the first Press Enquiry Commission enquired Pat came the reply, "the spirit was willing but the flesh was weak!"

That just about sums up the matter. □

"What about the textile mills' land being more of an asset than their productive equipment? Where else in the world have powerlooms vanquished factory production? But a wonderful part of the scenario is that it is the industries or enterprises which turn sick—the owners remain healthy and move on to fresh pastures."

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Profiteering is their sole business !

Kamal Nayan Kabra

Tracing the growth of Indian business and business men in the past few decades, the author opines that "generators of black economy and cultural nihilism and preservators of politics who make a religion of self-aggrandisement cannot be agents of social. transformation towards a better and healthy tomorrow. A reading of all the resolutions and by the organised business, even by an undergraduate, will unmistakably point out that all that they want is a little more of private profits."

BUSINESS CLASSES OCCUPY an important and powerful place in the socio-economic system obtaining during the post-independence era. This era is both a product of history and a result of conscious choice made by the framers of the Constitution insofar as the right to property was made a fundamental right and nationalisation on a large scale and without fair compensation was ruled out It means the place occupied by the business classes during the last four decades or so is both a historical legacy and a conscious choice made by the powerful elite. Given the Indian situation, the masses had no option but to acquiesce in it The endorsement, in successive electoral battles, of the regime which clearly and loudly accepts, acclaims and implements such a role-assignment for the business classes, is more the effect of this socio-economic system than the cause of it.

A class all-powerful !

Be as it may, in no historical epoch did the Indian business classes (right from the village retailer and artisan to the top echelons of industry and commerce) controlled and commanded such an extensive sphere of economic activities, such a large-scale direct control over productive assets and such a powerful and tight hold over the reigns of social, cultural and political power as they do under the 'soverign, secular, socialist Republic of India' which emerged as a political nation in 1947 An index of the extensive range of economic activities which are directly under the command of the business classes can be seen in the obliteration of the distinction which existed between the farmers (kisans) and the business men (banias). Today all farmers save the marginal and small farmers, have become, analytically and functionally, business men and only the cultural imprints and fond memories of farming as a way of life (rather than a business proposition) are surviving. Thus except for the public sector (accounting for over 20 per cent of Gross Domestic Product), and the small and marginal farms sector and other household producers, all the rest of economic activities are directly under the thumb of business men This does not mean that the power of the business men does not affect either the public sector or the household production sector which are linked in many ways to private business sector No wonder there has come about an eclipse of other classes from the firmament of power, privilege and influence as a result of which the others are basking in reflected and derived glory.

Naturally, the survival, growth and performance of the present system depends, to a mighty extent, on the performances, dynamism, sense of social and historical responsibility and motivational pattern of the business classes.

It may be pertinent to point out that all along we have been speaking of the business classes in plural. This is in defence to the extremely fine degree of

differentiation and regional, linguistic, cultural, size-based and economic activities-based mosaic of diversities which are the hallmark of India's business classes.

No less diverse are the roles which the present social system assigns to India's business classes. This role follows from what has come to be called the 'mixed economy' is a misleading one inasmuch as it has no specificity and can be applied to almost every economy in the present day world. However, according to the Indian model, the business classes got an

"In assessing the actual behaviour of the business classes, it is critical to bear in mind the fact that in a very big way, if not unanimously, the business classes were happy with their role and the context of the role they were given in the post-independence era."

extensive role to play which was notionally circumscribed by the schedule A and B of the 1956 Industrial Policy Resolution. Even here the business classes attracted no serious handicap insofar as an extremely high degree of flexibility marked the implementation of the 1956 Industrial Policy.

The theoretical base

What was expected of India's business classes in implementing India's strategy of development, a development which was conceived largely in economic terms ? Before we come to this question, it may be worthwhile to briefly refer to the theoritical foundations of the role which business men play in economic and social life of the countries organised on the basis of private enterprise. It was agued by the Father of the Science of a private enterprise economy Adam Smith, that it is not because of the benevolence of the baker, butcher and brewer that we obtain our supplies of bread, meat and wine. It is their self-interest as business men which makes them bring forth the supplies in order to meet the wants of society. It is this correspondence between the business men's pursuit of self-interest and the society's needs for various commodities which provides the basis for organising social life on the basis of business men's enterprise.

This capacity of business men, apart from its basis in the structure of the economy, was thought to be derived from what has come to be called their "entreprenurial" function. Enterpreneurship, a little analysed category in sharp contrast to its critical significance, is said to be related to various activities like adventure, inventions, innovation, perception of unexplored opportunities, risk-bearing, exploration, management, organisation, etc. by economists like Cantillon Schumpeter, Hirschman, Kirzher etc. Either he is engaged in what Schumpeter called erative destruction, or acts as an agent of equilibrium. Ranging from the merchants who buy and sell over distant places and periods of time to those who introduce new products, new process and new resources, the entrepreneures are expected to steer the economy in the directions required by social needs. Whatever the tasks, their motivation remains rooted in self-interest, which may get manifested in various ways, as modern theories of firms show.

It is not relevant for the present purpose to refer to various criticisms of these entrepreneurial functions of business men. They generally relate to the motivational pattern and the structure and organisation of economic activities which interrupt and/or rupture the emergence of a spontaneous correspondence between the fulfilment of social ends and individual decisions. These views also turn out to be defective because they ignore the dynamics of social change and the changing distribution of social power. As a result, the entrepreneurial functions of business men become dependent on command over resources and control over levers of power. As such resources, get concentrated and business oligarchies emerge.

The expectations !

In India, the business men were expected to bridge the gap between our productive potential and its rather low level of actual utilisation. They were expected to be important component of the engine of growth, of course, added and regulated by the State. In this process of ushering in the growth, they were expected to diffuse higher levels of productivity through reinvestment, resource mobilisation, technological upgradation and import-substitution. Their R & D efforts were expected to put them on par with other dynamic groups of business men in countries generally considered developed. In this process, they were expected to generate additional employment opportunities at a fair wage rate and accept the fiscal discipline of contributing a part of their surpluses to the State exchequer for bringing about an ex post facto correction of initially strengthened inequalities. Their reinvestment, employment generation and tax contribution roles were to initiate a process of trickling down of the benefit of growth in order to enable

"Without alluding to many a change which became their lot, it can safely and, one presumes, incontrovertibly, be maintained that there is hardly any other group of persons in India which became as well off as the business men during this period."

economic growth (in the form of expansion of the home market) to lay down the foundations of social development.

Using their resources, managerial and technical competence, they were to act as trustees of social resources as could well be expected of people who grew under the shadow of the Mahatma. As the head of a leading organisation of business men said the other day in the course of a Luncheon hosted in honour of the Duke of Edinburgh, "We sincerely believe that what is not in the interest of the society as a whole

can never be in the interests of the organised business as such." Similar were the expectation of the leadership which enjoined upon the business classes crucial responsibilities in the sphere of a thorough transformation of Indian economy and society.

The essence of the hopes !

The essence of this expectation consisted of the understanding that a poor nation can only redistribute poverty, which is hardly desirable. Hence it is essential to rely upon those who have resources and competence to bring about a sustained and sizeable increase in national income Apparently, once the barriers and vicious circles of poverty and dearth of management-technical skills are broken, we would be able to distribute not poverty, but riches It is apparent that without assuming such a political and economic behaviour from the business classes as would not stand in the way of a later day restructuring in the direction of a more just and egalitarian society, the model of mixed economy would not be able to stand on its feet Needless to say, such a politics as would not succumb to centralising economic power was also assumed Therefore, on the one hand was assumed a business class acting on the basis of Gandhian Trusteeship On the other hand was assumed a breed of politicians and a kind of politics capable of steering clear off the power of the lucre, filthy or not-filthy

The conflicting evidence !

In view of the role public policy assigned to the business-men of the country, it may be asked whether there was enough evidence that they had the capacities to prove themselves equal to the task. As far as the question of actually demonstrated capacities is concerned, one comes across conflicting evidence. A large number of new modern large scale productive ventures were successfully initiated by Indian business men and, by and large, they made a success of whatever they undertook. However, the sweep, range and intensity of new business ventures could not galvanise the Indian economy into an industrial giant

"The basic assumption that politics is above and independent of business and hence the former is capable of forcing the social will and objectives on the latter (whatever its philosophical basis) has been falsified by Indian experience."

commensurate with her potential. This was, however, attributable to the ruinous and plunderous role played by the British business classes through their political hegemony over India. As a result, during the early colonial era, by finishing off a thriving and vibrant artisan economy, the well-springs of the growth of a dynamic business class were dried up Not only that, by reinforcing its advantages of early start through the 'use' of blatant political coercion a large number of economic activities which had a good potential of diffusing new technology and forms of business organisation, and creation of sizeable employment opportunities and of local innovative capabilities, were directly grabbed by the British business men who operated them against the interests of Indian industrialisation Such a growth was more than counterbalanced by the stifling of Indian business classes. Furthermore, denied of the legitimate avenues of growth in their own domestic setting, Indian business classes devised means of seeking opportunities either under the protective wings of foreign capital or in various devious ways Thus if there was lack of fast expansion of India's business classes it was considered an effect of unjust and unequal 'competition' provided by the business men from the ruling nation and its allies.

"Symboisis of politics and business is bound to lead to a most pernicious concentration of economic and political power. Apart from being injurious to the interests of the great majority of the poor masses, such a combination of power also hinders the growth of relatively smaller business men"

The alien influence !

The inhibiting and distorting effects of the dominance of British business men were realised by Indian business men. They made attempts to undermine the position and power of foreign business men and carve out a niche for themselves both in business as well as in political and cultural fields The power exercised by Chambers of Commerce dominated by the foreigners not only aroused their envy and challenged their self-respect, but also provided a model of the future they would like to work for. Thus by adopting mimetic practices concerning political mobilisation lobbying, financial manipulation, organisational forms like the managing agency system and managerial skills, certain groups of Indian business men tried to forge ahead. Unfortunately, the size of such business classes could not become commensurate with the size of potential human and raw materials availabilities in India. A narrow class of modernising business classes, fully aware of their economic and political potential and striving to realise it, emerged The emergence of a pyramidical, narrow top of business men was also attributable to the built-in depressions operating in the Indian economy owing primarily to external rule and dominance

Thus under the combined impact of the power of foreign and Indian big business, a vast business class, largely homogeneous with roots in productive activities like farming, artisan, production etc could not emerge Being firm allies and henchmen of the alien rulers and sharing the plunder of India's resources with the foreign rulers, the Indian feudal lords and kings were unlikely to find incarnation in the form of business classes. Thus prior to independence the size of business classes could not become large enough to usher in an era in industrialisation. The mercantile and financial elements remained strong in the relatively small sized business classes, a trait which still lingers.

However the organised business classes were able to emerge, prior to independence both as classes-in-themselves and as classes-for-themselves, who could arrive at a broadly unified class approach to issues of economic, financial, tariff and other policies. They also showed a high degree of professional competence in reconciling their day-to-day adjustments with the foreign rulers essential for current survival with the development of a high degree of rapport with the nationalist leadership spearheading the freedom struggle (an essential condition for future growth). They successfully influenced, to a certain extent, the economic and financial policies of the British rulers and in various ways developed close links with the freedom struggle. These historical traits demonstrated by India's business classes played their part in winning for them a big role in rebuilding a prosperous, new India through planned social efforts.

"Multi-dimensional growth, diversification, strengthening and changed mode of functioning of Indian business classes owe considerably to political process. A 'successful Indian business man is as much as economic financial and technological entrepreneur as he is an astute manipulator of the political-administrative processes."

The post-independence era

The immediate post-independence era saw the evolution of politics and perspectives based on the assumption of a broad national harmony, reconciliation and mutual complementarity among basically conflicting interests. Naturally, the foresighted segment of the business classes could not have wished it differently. In assessing the actual behaviour of the business classes, it is critical to bear in mind the fact that in a very big way, if not unanimously, the business classes were happy with their role and the context of the role they were given in the post-independence era.

The contribution of business classes during the last four decades must be seen as a part of the performance of the so-called mixed economy model. The first striking thing which happened during this period is the growth of business classes in terms of their numbers. This was a multi-faceted phenomenon which could be seen in terms of scale and variety of businesses, use of higher and sophisticated levels of technology, adoption of newer and more organised forms of business and abandonment of some socially undesirable form of organisation and management like the managing agency system. They also acquired wider regional spread, though their ethic origins did not show a matching diffusion. Of course, the range of commodities and services produced by them increased greatly with the green revolution giving them an unprecedented foothold in agriculture. Modern management principles and practices also came in for wider application, though in agriculture, land ceiling laws kept the corporate firm out.

Business men also became more organised into various associations and chambers of commerce and did not hesitate to use agitational methods when their interests demanded it. Despite the persistence of hereditary succession, more education and technical training were obtained by the sections of business men. International business, technical, political, professional, ideological and cultural linkages of the business men were extended and deepened. Fear of and hostility towards foreign capital was largely replaced by co-operation and mutuality.

By and large, all the segments of our highly differentiated business classes improved their economic and social position over the period. Many had to forgo their traditional callings or conventional methods of running them. Such groups had, at times, to undergo a painful process of readjustment but once the teething troubles were overcome, they became measurably better off. Without alluding to many a change which became their lot, it can safely and, one presumes, incontrovertibly, be maintained that there is hardly any other group of persons in India which became as well off as the business men during this period.

What evidence proves !

The relative improvement in the position of business men is at times and in certain quarters contrasted with that of politicians and bureaucrats, with a view to suggesting that the latter may have become still better off. I am not aware of any systematic study dealing with this issue. However, indirect evidence and a priori reasoning suggest a few things !

ONE

Firstly, as the direct controllers of assets and decision-makers, the business men would derive greater financial gains than politicians and even the combined "contribution" of all the business men would hardly be a match for the combined surpluses obtained by the business men.

"These capital and foreign exchange intensive goods, based on imported technology, foster consumerism and imitative life styles. They encourage further skewed distribution of income and wealth. The spread of values of consumption and acquisitive society impede the processes of social transformation as they become instruments of co-option."

TWO

Secondly, once a regular system of cuts and kickbacks comes into operation, it is not very logical to treat business men and politicians as though they belong to two separate watertight compartments. *Benami* business is nobody's exclusive preserve and given our extended family system, sociological links come handy to enable politicians to run business. Accumulated funds must, after all, enter business.

Just as business men have come prominently and in large numbers into politics (particularly, owing to big farmers becoming business men), a large number of politicians have directly, indirectly (through members of a common household) and through benamis entered business. It is a pity that much researches have not been done on this issue.

THREE

Thirdly, to quite a large extent business has partaken the features of politics and politics has become quite a bit of business. Not only the practice concerning financing politics and elections and treatment of 'political' contribution as a variety of 'investment', which have become common to most political parties and business men of substantial standing, but the methods of regulation, control and encouragement of private economic activities and fiscal and monetary policies contribute to pulling down of the fences separating business and politics from each other.

The symbiotic relationship

As a result, a symbiotic relationship has come to obtain between business and politics. Any appraisal of what the business has done for the nation must be based on the current modus operandi of business in relation to political and administrative processes. However, essential, inescapable and a desirable a controlled business system, the manner in which it has actually operated has brought about a firm alliance and symbiosis between business and politics. The debate over alternative methods of control, regulation and encouragement of economic expansion would remain more shadow-boxing until priority is assigned to changing the axis of social power represented by the symbiosis of business and politics. The basic assumption that politics is above and independent of business and hence the former is capable of forcing the social will and objectives on the latter (whatever its philosophical basis) has been falsified by Indian experience.

The Indian variant of business men-led market model of accumulation, supported by a plan model

"The non-acceptance of the logic of and alternatives to doing away with plunderous and inequitous primitive modes of accumulation by the business classes inhibits ploughing back of their surpluses into socially approved channels."

of public accumulation was designed to avoid the excesses, injustices and heaping of hardships on the masses (under various primitive accumulation models) following from democratic human rights. Relative autonomy of politics from business and acceptance of the rules of the game by business men were essential prerequisites under our post-Independence model for the emerging reality in India to be a mirror image of the chosen futures in which justice—social, economic and political shall inform all spheres of life and there will be no concentration of power to the common detriment. One may have genuine doubts whether such pre-requisites could ever be met. Symbiosis of politics and business is bound to lead to a most pernicious concentration of economic and political power. Apart from being injurious to the interests of the great majority of the poor masses, such a combination of power also hinders the growth of relatively smaller business men. Given India's size of unemployed manpower, adverse land-man ratio, capital requirements of imported technology and its limited employment potential, our 'mixed economy' model can hope to produce more employment opportunities,

"What was brought out by many commissions of inquiry into the affairs of many business groups, or the reports of government auditors into their finances and accounts, or the findings of successful prosecutions of tax evaders only show the tip of the iceberg. In fact, there is reason to believe that, these accounts represent the 'normal' business practices of the day."

reduce structural retrogression (i.e. increase in the relative share of the secondary sector in national income without a corresponding change in favour of the secondary sector in the occupational structure) and bring about a somewhat better diffusion at the fruits of growth only if there is a massive growth of small scale, cottage and artisan industrial enterprises. The cementing together of business and political power leading to a formidable concentration of power is preventing such a phenomenon from taking place.

Failing the nation !

Following from the above, it is not very difficult to see how the business classes have failed the nation. Since the facts concerning economic change and growth are well-known, I am not going to make this essay laden with statistics. Multi-dimensional growth diversification, strengthening and changed mode of functioning of Indian business classes owe considerably to political process. A 'sucessful' Indian business man is as much an economic, financial and technological enterpreneur as he is an astute manipulator of the political-administrative processes.

The outcome of such a system of business has changed the Indian society both in quantitative and qualitative dimensions. In a comparative historical sense, there is evidence that the days of stagnation were ended and we achieved a sustained expansion of economic activities at a rate not known at least over the last three centuries. We have had a good deal of import-substitution. Modern industry, trade and services have reached many areas for the first time. Millions find themselves in an improved position, though many more millions have suffered either a relative or an absolute decline.

This brings one to the question of pattern of 'development' fostered in our midst. The commodities whose production was appreciably stepped up by our business men, except for wheat and rice, are largely non-wage goods. Even for additional wheat and rice, we had to forgo coarse grains, pulses and oilseeds. Per capita availabilities of most other articles of mass consumption have not picked up or have even declined. But we produce a whole arsenal of goods for non-

productive consumption by a better-off and shrinking minority. These capital and foreign exchange intensive goods, based on imported technology, foster consumerism and imitative life styles. They encourage further skewed distribution of income and wealth. The spread of values of consumption and acquisitive society impede the processes of social transformation as they become instruments of co-option.

Owing to collaborationist attitudes and practices, our business men have failed to generate technologies based on indigenous resources endowments, local needs genious and cultural pattern Socio-economic imperatives of employment generation, expansion of home market by ensuring jobs at gradually rising levels of productivity for a large number (rather than capital-goods based quantum jumps in productivity for a few) have also remained neglected by the technological choices exercised by the business men Even in these areas, chosen by the business men we lag behind the countries we obtain technologies, finance and enterprise from. Perhaps inevitably, as no races are now on borrowed crutches. Their own consumption standards get perverted and owing to predominance of hidden, black incomes in their hands, a vulgar luxury consumption mania has gripped them

"The growth of disparities, which have denied so far the potential of removing most demeaning poverty and balanced regional spread of the socio-economic benefits, owe considerably to the deeds, misdeeds and absence of deeds on the part of our business men who control the great bulk of our resources."

The non-acceptance of the logic of and alternatives to doing away with plunderous and inequitous primitive modes of accumulation by the business classes inhibit ploughing back of their surpluses into socially approved channels.

And the black money !

The entire phenomenon of the black economy, which brings our business circles in the ambit of lumpenisation is the result of the pursuit of self-interest in a crass partisan manner, falsifying the premises of our 'mixed economy' model discussed earlier. The corporate device has become a means for fattening private purse at the cost of the investing public, public exchequer and public financial institutions. What was brought out by many commissions of inquiry into the affairs of many business groups, or the reports of government auditors into their finances and accounts, or the findings of successful prosecutions of tax evaders only show the tip of the iceberg. In fact, there is reason to believe that these accounts represent the 'normal' business practices of the day. The exposed cases either show the failure of these business men to follow the eleventh command ("dont get caught") or was the result of business rivalaries which some politicians capitalised in order to win progressive credentials for themselves. And yet rulers can be seen rubbing shoulders with their business magnates inaugurating their 'philanthropic' deeds, financed out of tax-concessions or corporate moneys. Of course, fund collection from them cannot be seen, so openly as it is not through proper party channels any longer.

The growth of disparities, which have denied so far the potential of removing most demeaning poverty and balanced regional spread of the socio-economic benefits owe considerably to the deeds, misdeeds and absence of deeds on the part of business men who control the great bulk of our resources. The maldevelopment and dependency fostered by the business groups have shattered the fond hopes of operating a trusteeship model.

The continuous growth of the power of the rich has attacked a far more precious, even though non-material, thing called the psyche of faith in the hearts of most people, particularly the poor, that during their life time, they, (i.e. The great segment of humanity) will be able to overcome poverty and degradation. The power of the rich (a term which has become almost synonymous with the business men) has subjugated the cultural arena too, Their control over media (newspapers, cinema, publishing etc), literature (awards, publishing, patronage), massive deployment of advertising, their sway over religious, caste and other divisive fora, their encroachments into educational and academic fields, breed and strengthen cultural patterns full of depravity and against the spirit of scientific inquiry, social change and innovations.

To think that without doing basic rethinking about the assumptions on which the role of the business men was based our mixed economy model can be made to work is to behave like an ostrich. Generators of black economy and cultural nihilism and preservators of politics who make a religion of self-aggrandisement cannot be agents of social transformation towards a better and healthy tomorrow. A reading of all the resolutions and memoranda by the organised business, even by an undergraduate, will unmistakably point out that all that they want is a little more of private profits. Their assumption seems to be that what is not in the interests of organised business can never be in interests of society as a whole. Such a single-minded pursuit of self-interest cannot at the same time produce socially desirably outcomes by the invisible hand. Let there be a thorough scientific investigation of the role, motivation, behaviour and dynamics of the business classes in India, in order to show the validity of the role given to them, lest our model be accused of ideological commitment to the power and privileges of the property-owning business classes. If our arguments so far are valid, the business class have failed to live up to the expectations of the nation and there is little chance of any improvement of their performance during the days to come. □

"The continuous growth of the power of the rich has attacked a far more precious, even though non-material, thing called the psyche of faith in the hearts of most people, particularly the poor, that during their life time, they (i.e., the great segment of humanity) will be able to overcome poverty and degradation."

Journalists

The hollowness of these purveyors of truth !

Khushwant Singh

The distinguished journalist in this short but interesting piece, narrates some 'true' personal experiences to expose the dirty doings of pressmen who, in collusion with newspaper proprietors and politicians, 'prostitute their pens for money' and feed the poor reader with all that goes with misinformation. And yet, he adds, they love to be known as the purveyors of the truth.

I HAVE BEEN A JOURNALIST for over 30 years of which for the last fifteen I was an editor of some journal or the other, starting with *Yojana*, going on to *The Ilustrated Weekly of India*, New Delhi and ending with *The Hindustan Times*. Before I knew much about the profession. I used to say that I had the misfortune to be in a job where no one thought me worth bribing because I had nothing to give them in return. All the bribes I received for accepting articles were a smile from a pretty girl whose poems I published, invitations to dinners and at times a bottle of Scotch at Diwali or Christmas. These I did not regard as bribes because they did not in any way corrupt my judgement about articles sent by their givers and I unhesitatingly rejected those that did not come up to the mark. My logic was somewhat Punjabi; one bottle of Scotch is a gift, a crate of Scotch is a bribe. In any case, since I did not consider myself worthy of being bribed, I regarded myself in the same light as most Englishmen do their own journalists:

> "You cannot hope to bribe or twist
> Thank God, the English journalist;
> But seeing what the fellow will do
> Unbribed, there is no occasion to."

Planting news and views !

People were able to get me to write what they wanted to without wasting their time or money on me. It took me some years to discover that not only were there vast opportunities in my profession to make money illegally but that a substantial proportion of my brother journalists did in fact exploit such opportunities and lived well-beyond what they could on salaries they received from their newspapers. In return they planted stories required of them, slanted news as desired, publicised politicians and socialites, and exposed scandals of people who refused to pay them to keep quiet. Obviously, I cannot name these "gentlemen" because that would involve Yojana and me in endless litigation which neither of us could afford. Let me assure you, dear reader, that instances I cite are culled from personal experience and true. And sad to say that the dirty ones at the game in the profession of Journalism outnumber those who play it according to the rules.

"True" personal experiences !

You must be familiar with the story of an arch-briber of Journalists, a former Union Cabinet Minister. He is said to have kept the entire press corps based in his state capital well-oiled to write favourable accounts of his performance. It is said that once when he returned from abroad, he brought with him bales of suiting material which he gifted in turn to

his journalist friends. A few days later he held a press conference. By sheer coincidence all pressmen who turned up were wearing suits made of exactly the same design and texture. The Minister was thus able to expose the hollowness of these purveyors of the truth.

This story has obviously some "mirch-masala" added to it to prove the pervading corruption among journalists. However, no condiments are added to the experiences I narrate. When I edited an illustrated journal I had to pass bills for photographs used. A large number used to come in unsolicited and free because people wanted publicity. It took me two years to discover that I had been passing bills for the free-unsolicited pictures in the name of a *benami* photo-agency set up by a member of my staff for the benefit of his mistress. He got money from me and he got money from the people who had sent the photographs—a tidy couple of thousand rupees a month free of tax. Two other colleagues set themselves as food and wine experts. They wined and dined their friends in five-star hotels all over the country, and for an analytical article on the liquor industry, acquired crates of whisky, gin, rum and whatever by persuading the liquor manufacturers that "the editor likes to stock these goodies". Yet another colleague charged the company regular taxi fare to and fro to see pictures that he had to review for the journal. He went by bus, collected a vast hoard of stills to set up a private pictorial library from which he supplied other journals at considerable profit to himself. These fellows lived in clover; the honest and the hauler worked, smoked *beedees*, drank black coffee and trudged home on foot.

Living on blackmail

There are journals in India which live entirely on blackmail. Most of us know them but continue to read them because we love to read gossip and scandal. Some specialise in exposing peccadillos of politicians and socialites, others concentrate on film stars and their love affairs. Large sums of money in cash are passed to publish or withhold publication of such stories. Advertisers are bullied into buying advertisement space by threats of adverse publicity. I recall a Punjabi journal with hardly any circulation which managed to survive on two full page adds from Coca Cola and the Punjab and Sind Bank. When Coca Cola withdrew its ad, the editor proceeded to write a series of articles and print posters warning people of the ill-effects including impotence caused by consuming Coke. Sales of Coke dropped steeply. The ad was restored. It was followed by another series lauding its qualities—presumably including the aphrodisiacal. These yellow journals thrive in Bombay which provides the largest advertising revenue in India. Despite their yellowness and gross vulgarity, State Governments pay enormous sums to have special issues brought out and give royal treatment to their editors. Even Ministers of the Central Government are eager to give them exclusive interviews and compensate them with advertisements from their departments.

Film journals function on an even lower level. Their stock-in-trade is sex scandals of matinee idols and pronouncing whether films are flops or box office hits. Film stars and producers vie with each other to get good notices for themselves and adverse notices for their rivals. Since the film world largely operates on black money, a good bit of it finds its way into the pockets and handbags of film journalists.

And the national press!

Daily papers, notably those described as national and which have editions published in Delhi largely batten on political corruption. Politicians are anxious to see their names appearing in a favourable light in papers read by the governing elite of the Central Government. A friendly journalist can be persuaded to plant a story "from reliable sources" that so-and-so is being seriously considered for the post of a governor, ambassador or chairman of a nationalised bank or public sector enterprise. That is how some names do in fact come up for consideration. Ministers will leak information to journalists if such information enhances their status or denigrates that of their rivals.

The Central Government is anxious to keep the capital's press corps contented. Many are provided

"It takes a brave newspaper proprietor or editor to resist pressures brought on him by these State Correspondents through Chief Ministers who they have obliged and Ministers of Central Government who they have cultivated. The only sufferers of misinformation fed to the papers is the poor reader."

with government accommodation—or deprived of it if they prove difficult. State Chief Ministers are equally anxious to have favourable accounts of their performance in Delhi papers and provide housing and other facilities to correspondents posted in State capitals. The practice of slipping a monthly lifaafa (envelope) containing currency notes into the pockets of amenable State correspondents is known to the editors and the news desk who handle their copy. There is little they can do except cut out blatant praise or criticism "for exigencies of space", or driven to desperation, order the transfer of the correspondent to another State. It takes a brave newspaper prorietor or editor to resist pressures brought on him by these State Correspondents through Chief Ministers who they have obliged and Ministers of Central Government who they have cultivated. The only sufferers of misinformation fed to the papers is the poor reader.

Newspaper proprietors are as guilty of corruption that has eaten into the vitals of the Indian press as the pressmen who prostitute their pens for money. Kipling's lambast on Lords Rothermere and Beaverbrook, then owners of the two largest chains of papers in England is pertinent. Kipling wrote : "What the proprietorship of these papers aims at is power, and power without responsibility—the prerogative of the harlot throughout the ages." □

A clear look at the seamy side!

C. P. Ramachandran

Proprietorial interference and the vested interests of journalists themselves have turned the present-day Editors into mere agents of owners, says the author and asserts that the press today, as reflector of public opinion, is in fact a distorting mirror—no one wants to take risks; the job is all important and the emphasis is just on routine stories. Calling the situation as tragic, the author has not much hope for change as there are too many vested interests involved with access to policy-makers.

IN A SECTION of his autobiography, Harold MacMillan, Prime Minister of Britain in succession to Anthony Eden, has written that when the parliamentary correspondent of *The Times* of London gave prominent coverage to a speech in the House of Commons attacking the appeasement policy of Neville Chamberlain, the news editor sneaked in at night and removed most of the salient points. This was because *The Times* was a prominent supporter of Chamberlain and the Astors, who then owned *The Times*, were the leaders of the "Clivendn set" (Cliveden was the home of the Astors) which felt that Britain should work out some kind of understanding with Hitler. The tragic aftermath of the story was that Wynn, the parliamentary correspondent, joined the British Expeditionary Forces shortly after war broke out and was killed in France The news editor lived on to old age.

"Agents of owners"!

Proprietorial interference in the newspapers is a matter of frequent occurrence. This is particularly so when newspaper-owners are industrialists or businessmen who have to please bureaucrats and politicians. A case in instance was when a report appeared in a Delhi newspaper that a certain Minister returning from Japan was found carrying contraband goods. The minister, who later became a Governor and died two years ago, was a great friend of the industrialist-proprietor. And so the next day a contradiction was carried and the journalist who reported was severely cautioned.

The first press commission, headed by the late C. P Ramaswamy Iyer, was startled when a newspaper owner, Ramakrishna Dalmia, confessed that he had committed practically every crime known to man But that may have been a piece of self-abasement. The fact remains that news which affects certain business interests is suppressed. At one time, it was customary for the owners to make use of the newspaper's teleprinter services to find out the goings-on in the market. Perhaps this has not altogether stopped.

Another incident of the middle fifties was the vendetta carried out by certain newspapers against V. K Krishna Menon, then defence minister under Jawaharlal Nehru Its origin lay with the United States which was determined to get Menon out because of his strong anti-imperialist speeches at the United Nations where he was the Indian spokesman. He was accused of being involved in what was known as the jeep scandal in the sixties when the transaction is said to have taken place during the Indian army's operations in Karshmir in 1947. The real reason for the business men owning newspapers was that Menon was considered to be a socialist who wanted an enlarged public sector. One editor passed verbal orders that no picture of Menon should appear in his paper unless it showed him in some comic or unseemly light. The English-language press in those days was largely controlled by the American lobby and any journalist who resisted their pressure risked his job.

Another victim of press harassment was the late Keshav Deo Malaviya, the Oil Minister. He was also a left-winger. Moreover, he had angered American interests by improving the prospects of exploiting India's own oil resources. India was utterly dependent on foreign sources for petroleum. Malaviya had changed all that. He was accused of all sorts of things. Once a Delhi newspaper carried a banner headline that some oil well had collapsed due to ministerial incompetence. The report was datelined Calcutta. A month later this writer was in Calcutta and ran into the correspondent who had presumably filed the oil well collapse report. When I queried him, he flatly denied he had sent any such story. It turned out that the material had been collected by the Delhi-based correspondent from some people working for Burmah Shell and the editor had the story published under the Calcutta dateline, a deliberate and malicious fraud.

With the passage of years, the editor has become a mere agent of the owners. He has no personality of his own and his sense of honour (if he has one) is not taken into consideration at all. As they get very good salaries and other perks like a free house and transport, very few editors (if any) face up to proprietorial pressures. It is simply a process of bribing. There is the well-known case of an editor of an English daily in Delhi who was courageous enough to write mildly critical articles during the days of the emergency. After the emergency was over, the proprieter simply kicked him out and replaced him with a favourite.

"The Indian public does not get its money's worth through newspapers. That is a fact. Many commissions have gone into the pattern of newspaper-ownership and how to diffuse it or democratise it. But nothing will happen because there are too many vested interests involved who have access to policymakers. That is the tragic situation today."

And these journalists !

But it is not only the proprietors who are to blame. The journalists themselves are likely to be pliant. It is a well-known fact that district level correspondents, most of them part-time journalists, write glowing reports of the district officials in exchange for favours. They need these favours because they have their own businesses. One person known to me had a transport business and wrote in high praise of the local transport officials whenever he got a chance. Some of the state accredited journalists are provided government houses on nominal rent. They are naturally reluctant to write anything against the state government for fear that they may lose their houses. Here again, some correspondents are known to have private businesses of their own. Admissions to specialised colleges for their children is another reason for the correspondent's lack of objectivity and responsibility. The point is that in a general atmosphere of corruption and under the hand dealing, the journalist also gets involved in shady matters.

At the other level, there are also people who try to blackmail officials and politicians for failure to come across in some demand. Two years ago, when there were extensive forest fires in the Kumaon region, most people knew that these fires had been started by wood contractors. But not a line appeared in any of the prominent newspapers because the contractors were taking good care of local reporters. A wholly false story that women had been molested in Calcutta and that one of the ponds in a certain area was full of brassieres was concocted just to bring discredit on the left government in the state under Ajoy Mukherjee.

This editorial opinion !

The editorial opinion of newspapers bear a remarkable resemblement. On any issue affecting economic interests the papers take one line. When the banks were nationalised, there was not a single major newspaper that did not attack the measure. Every argument was adduced to show how it would land the country in a financial mess. But over the years bank nationalisation has been accepted. Many proprietors of newspapers also owned banks or were directors of private banks and were naturally upset over the nationalisation. But what is the worth of editorial opinion if all views are alike ? Thus, over the years, the editorials of newspapers have lost all credibility.

Much the same goes for the language press. Worse, they have an inferiority complex in relation to the English language newspapers and are always trying to imitate the latter. If the English press sets its guns on one man, so will the language press. A recent case shows how weak the language journalists are. A Hindi reporter was the first to secure the story on the espionage case involving the Larkins brothers. His editor first refused to publish the story presumably because he did not want to offend the government. Later, he was persuaded to publish it in some obscure corner of the paper. This was noticed by the sister English publication and an enterprising reporter had it played up in his paper. After that, it became a sensational scoop.

The press, as a reflector of public opinion, is in fact a distorting mirror. No one wants to take any risk. The job is all important. Therefore, the emphasis is on routine stories. The news agencies are not independent at all. They are entirely dependent on the government media like radio and television subscriptions Besides, state governments also subscribe to their services. The Indian public does not get its money's worth through newspapers. That is a fact. Many commissions have gone into the pattern of newspaper ownership and how to diffuse it or democratise it. But nothing will happen because there are too many vested interests involved and they have access to policy-makers. That is the tragic situation today.

"Our services are to set an example not only of efficient service but also of high integrity and complete freedom from communal, provincial or other bias. There are many disruptive and anti-social forces in this country and it is often said that the moral fibre of the nation is not what it was. Evil stalks the land in the shape of narrow communalism and opportunism; black markets and the like have poisoned our trade and business to a large extent. It is for the services to fight these evils and they can do so only if they are men and women of character, integrity and selflessness. We have to fight evil wherever we find it. We cannot afford to succumb to it or to be passive and inert spectators of it."

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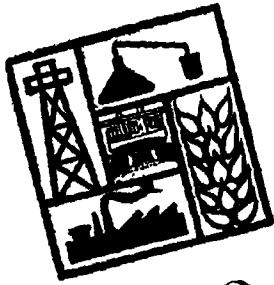
"The dirty doings that YOJANA has decided to expose, and thereby to cleanse our society of this excreta, is a noble task—comparable to Gandhiji's decision to cleanse his own bath-room and lavatory in the Tolstoy Farm in South Africa.

Since then, more than half a century has elapsed but our society has not undertaken such a necessary sanitary task on such a social scale. So let's grid our loins for this necessary social cleaning-up.

No names will be mentioned, but only groups who clog the social flow of India with the litter of their dirt and their dirty doings, and this exposure, I hope, will make the society conscious of these dirty people and their dirty doings, and also make these groups of 'dirty' ones conscious of their dirty deeds and (hopefully) make them self-conscious and, therefore, self-cleansing.

Among these groups there is a complete dozen.

And, they are to be found among (1) bureaucrats, (2) politicians (in power), (3) politicians (in opposition), (4) planners (officials), (5) planners (arm-chair dreamers), (6) mediamen (big), (7) mediamen (small), (8) preachers (religious), (9) preachers (philosophers and economists of the empty minds), (10) god-men, (god-women and god-children), (11) businessmen, and (12) educationists."

K. A Abbas

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Trends in foreign trade

NEXT ISSUE

Pioneers of Indian economic thinking

Alathur dryer - biggest in Asia

THE BIGGEST MULTIPURPOSE solar dryer in Asia has started functioning at Alathur in Palghat District of Kerala.

Designed by the National Industrial Development Corporation the dryer functions as a warehouse also. Built at a cost of Rs. 14 lakhs, it has a storage capacity of 700 tonnes.

This is the fourth dryer to be set up by the Department of Science and Technology. But it is different from the other three in the sense that it can dry all kinds of grains and seeds and kernels and cashew and coconut. Others could handle only one or two. It can also dry fish if slight modifications are made.

Two layers of glass panels and another two layers of corrugated aluminium sheet painted black constitute the solar energy absorber. It has a length of 42 metres and a width of 13 metres. The air heated between the sloping concrete roof of the building and the energy absorber is taken through an underground air duct of 1 5 metre diameter to the dryers at the other end of the building.

Two dryers are attached to the system, a bed dryer and a column dryer. The bed dryer is used for coconut, tapioca, cashew, kernels and other similar products. The column dryer is used for grains of all kinds.

About 100 coconuts are dried within 25 hours while for natural drying it takes 53 hours spread over six days. The bed dryer can take upto 3,500 coconuts at one time. Some 90 tonnes of grains can be dried in three continuous eight hours shifts a day in the column dryer. The cost of drying grain works out around Rs. 6 per tonne.

Normally, the plant starts functioning half an hour after sunrise, and it goes on till sunset. If the absorber receives sunlight for three hours in the morning, the system can work throughout the day. □

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For new subscriptions, renewals, enquiries please contact: The Business Manager, Publications Division, Patiala House, New Delhi-110001

Our contributors :

Mohammed Fazal, Member, Planning Commission, New Delhi, **Navin Chandra Joshi**, Reader (Economics), Motilal Nehru College, New Delhi; **M. G. Bhasin**, Dayanand College of Arts and Science, Solapur (Maharashtra); **Vasant Sathe**, Union Minister of Chemicals and Fertilizers, New Delhi; **H. G. Hanumappa and T. M. Sujatha**, Associate Professor & Technical Assistant respectively, Institute for Social and Economic Change, Bangalore; **Harikumar S.**, Research Scholar, Department of Applied Economics, University of Cochin, Cochin; **P.P. Pillai**, Reader, Department of Economics, University of Calicut, Trichur; **S. V. Ali and P. N. Sahi**, Deputy Advisers, Planning Commission, New Delhi; and **P. R. Dubhasi**, Director, Indian Institute of Public Administration, New Delhi.

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Science education for human development

Mohammed Fazal

"Science and technology have been recognised as major tools for socio-economic progress of the country. Science education is not only important from the view point of pursuing a scientific career, and doing research and development, but it is also important to help the overall growth of a person in removing his superstitions, in helping him to understand nature, in his day-to-day activities ensuring a better standard of living." says the author.

FROM THE SCHOOL LEVEL onwards, if one has to ensure good standard of education and its high quality, there has to be a close association between the teacher and pupil. In pursuing a scientific career, this 'Guru-Shishya' relationship becomes still more important, because the student has to work very closely with the teacher and has to interact continuously with him in quest for knowledge.

College education is still more important where the student has to take a decision regarding his future career prospects. It is here that the role of highly motivated and dedicated teachers becomes very relevant.

In the present day society where the students many a time are burdened with many problems and to some extent there is dissatisfaction on several issues, there should be somebody in whom a student can find solace and guidance; that person invariably should be his teacher.

Based on an address delivered recently at the award giving ceremony of Jagdish Bose, National Science Talent Search in Calcutta.

It may be worthwhile to point out some causes for this dissatisfaction amongst the youth. These relate to : change in value systems because of the very rapid progress; lack of communication between parent and child, teacher and student etc. generation gap leading to diverse ideologies; the question of what is relevant for future studies, and the most important one being the feeling of insecurity about the future.

Sustained effort required

We will have to devise mechanisms and strategies to find solution of these problems. There cannot be just one solution. Therefore, a sustained, forward looking effort is called for. It is necessary that the universities and academic institutions should induce and build aptitudes of the young people for the acquisition of skill and knowledge. This will certainly require flexibility in curricula, introduction of modern techniques of science teaching and greater interaction between young and old. One may do so, and bridge the gap between students and teachers, parents and children by taking up inter-disciplinary programmes of education with the use of media as well as with the latest innovative techniques in science and technology.

Major tools for progress

Science and technology have been recognised as major tools for socio-economic progress of the country. Science education is not only important from the view point of pursuing a scientific career, and doing research and development, but it is also important to help the overall growth of a person in removing his superstitions, in helping him to understand nature, in his day-to-day activities ensuring a better standard of living.

The essence of science learning is to arouse curiosity and evoke a desire to observe, do things with his own hands, listen and understand various issues around him. Pandit Jawahar Lal Nehru did rightly emphasize that it was science alone that could solve

the problem of hunger and poverty, and the future belonged to science, and to those who make friends with science.

The scientific creativity nurtured at young age in our country could contribute greatly to the technological breakthrough, and furtherance of basic and applied research of international standards. In this context, the question of identifying, nurturing and developing excellence is extremely important.

A Vital role

The young scientists of today have a vital role to play in several areas of national importance such as: popularisation of science, and growth of scientific temper. To get the best in high quality science it is essential to capture talented young scientists and students at an early stage. This will have to be nurtured further by adequate incentives challenging research programmes, and attractive career schemes. The top class leadership in science and technology also will have to come from such a group of young students. Therefore, it will be necessary to ensure the identification at a young age of the best talents, and provision of all opportunities to them in the overall national interest.

It has been noticed in our country that because of the uncertainty of job prospects, many a time a student joins the career not suited to his original creative potential. From the list of the successful candidates for IAS and other allied services examination as also those entering industry, it has been noted that a large number of medical and engineering students go to IAS and other administrative and non-scientific services. Government will have to take a serious view of the situation, and provide adequate opportunities, amenities and facilities to professionals so that they can serve the nation better. Teachers can provide the inspiration and guide science students to select the careers appropriate to their intellectual calibre.

Nature and environment

I would also like to focus the attention of the young scientists to the whole area of nature and environment, its study and importance in their day to day living. We must learn to admire the nature, understand its value and learn to live in harmony with it. That is the crux of maintaining an ecological equilibrium, and ensuring a sustainable development. The young students can very actively participate in environmentally sound programmes of education, preservation of natural heritage, including plants and animals, and creating environmental awareness in the society.

I would wish to emphasise that in this country since independence, Government of India has provided its fullest support at the highest level to the cause of science. In the Approach to the Seventh Five Year Plan approved by the National Development Council the following has been stressed :

"The potential of Indian Science and Technology for contributing to the objectives of modernisation and development is far greater than has been realised in the recent past. Substantial capabilities have been built, but these have not been brought to bear in full measure on the national tasks. In the formulation of the Seventh Plan, this weakness will be addressed during the initial formulation of plans and projects by identifying the scientific and technological inputs required and then initiating the necessary development work as part of the Plan. The attempt will be to give up the practice of considering science and technology as a sector in its own right and to ensure that the bulk of science and technology effort is an integral part of all economic and strategic sectors."

The achievements of various mission-oriented science and technology agencies have been substantial. The human expertise and know-how in basic technologies achieved in this process is applicable in many other areas of industry, agriculture and rural development. There is a whole host of problems in these areas, the solution of which can be simplified by the application of technological knowledge so available. This effort should, therefore, be part of the planning process, particularly in the area of rural development. □

Delhi Super Bazar achieves record sales turnover

THE DELHI SUPER BAZAR has achieved a record retail sales turnover of Rs. 40 crores in 1983-84 as against Rs. 29 crores in 1982-83.

Set up 18 years ago, it has now a chain of 90 branches in different parts of the city including resettlement colonies and areas inhabited by industrial workers. The needs of low-income residential areas are looked after by mobile shops. Selling thirty-three items "on no profit no loss" basis, the Super Bazar is pay-emphasised on the new 20-point national programme. □

Computers for printing in Urdu

The Union Ministry of Education and Culture is seriously considering the introduction of computers for printing books and publications in Urdu.

The use of computers will revolutionise printing in Urdu and substantial number of copies can then be printed at a reasonable cost.

The Bureau for Promotion of Urdu has set up 25 Calligraphy Training Centres throughout the country. Three of them are exclusively meant for women, located at Sopore (Jammu and Kashmir), Tonk (Rajasthan) and Hyderabad (Andhra Pradesh). The Bureau has published over 455 books on various subjects including glossaries of technical terms; about 120 are on science and technology. It is likely to start correspondence courses in Urdu during the current year. □

Trends in foreign trade

Navin Chandra Joshi

With improvement in product-mix of agricultural and industrial sectors, India should consider switching over to a judicious system of barter with other countries for boosting its foreign trade. The imperatives of economic growth demand that exports be regarded as one of the highest national commitments. For such strategem, production alone will not suffice. An increased productivity will have a crucial role to play if imports are to be curbed, says the author.

THE LAST FOUR years of the Eighties have witnessed an acceleration in the rate of growth of exports and a deceleration in the rate of growth in imports. The annual growth in the value of exports has been higher than the percentage growth of imports. In April-December, 1983 exports had 12.1 per cent increase and imports a mere 2.3 per cent. Earlier in 1980-81, exports registered a 4.6 per cent increase and imports 3.7 per cent. It is clear that exports are rising faster than the growth in the import bill and it is expected that growth in 1983-84 will be the same as recorded in 1981-82 over the previous year viz., 16.2 per cent.

Decline in trade deficit

The trade deficit continued to register a discernible decline in absolute terms. During the period April-December, 1983 our imports were of the order of Rs. 10,416.52 crores and exports amounted to Rs. 6,858.32 crores which meant a trade deficit of Rs. 3,558.20 crores. This deficit in 1982-83 was Rs 5,525.78 crores as compared to Rs. 5,801.66 crores in the previous year. Except for two years in the last decade, i.e., in 1972-73 and 1976-77, India has been having an unfavourable balance of trade. In this context, it is encouraging that the deficit is now on the downward swing since 1981-82. This trend is likely to continue provided there is better management of our imports, particularly in respect of items like petroleum, steel, fertilisers, and so on. Hopefully, the oil discoveries in the offshore and onshore areas will make a significant contribution for completely wiping off our trade deficit in the coming years.

The Union Commerce Minister, Mr. V.P. Singh, said in Parliament the other day that India was all set to take international competition in its stride. Surely, making the Indian economy competitive in world markets is a very critical objective of our economic policy. But how to do it is a big question? The issue involves not only most efficient use of our scarce resources but also a number of policy matters that require urgent changes. Luckily, the Union Government's new Import and Export policy for 1984-85 has further liberalised imports of critical items that are needed for further growth of our economy. This step has been in the right direction. The major thrust is on expanding the production base of Indian economy and on giving a further imppetus to exports. With these twin objectives, the policy liberalises import of a number of capital goods, raw materials and components for production purposes, mainly with a view to making production export oriented. The general structure of the policy has been maintained in the interests of continuity and stability. The policy for import of raw materials, components and spares is broadly unchanged, as also the policy for capital goods and imports under Open General Licence (OGL). Thus, there is status quo in respect of the basic thinking and philosophy governing the policy. The liberal trend continues.

Yet, our high-cost economy presents a paradox in a situation of low wage rates in the country. The better solution would be to induct a good amount of operational efficiency, economy in materials and better management. Reduction in cost is a bare necessity

if Indian goods are to be sent out in ever-increasing quantity. The Government has set up several corporations in the form of State Trading Corporation, Minerals and Metals Trading Corporation and so on, for developing and strengthening the efforts relating to specific commodities and for diversifying the country's foreign trade. The Government has given some encouragement to trading and export houses which develop new products and new markets. Their exports would be reckoned at twice the F.O.B. value of annual incremental exports for the purpose of recognition as export or trading houses. Hundred per cent export-oriented units which are registered and holders of green cards, will now be eligible for various credit facilities at par with units in free trade zones for a period of two years upto Decebec 31, 1985.

Need to increase exports

These are some of the highlights of recent changes and progress in our foreign trade. Here it is relevant to point out that while our share in world exports came to 6 per cent in 1979, it fell to 0.36 per cent in 1980. It is feared that India's share in global exports will become almost negligible by the end of the decade in 1990 as other countries are also making a breakthrough in trade. Given a fairly strong and well-diversified industrial base, there is no reason why India's share should not jump up. Also, export of agricultural commodities, including marine products, tea and coffee hold tremendous promise. A long-term export policy for agricultural products seems to be highly critical. In the field of project exports we can make further progress. Today, India is the third largest country with technical manpower potential, next only to the U.S. and the USSR. Our natural resources are fairly adequate. It is necessary that we diversify the market base by identifying all countries according to different value ranges of our exports. Geographical distance should not come in the way and it be tackled with more shipping facilities made available to all viable distances. We need to make specific targets for markets also.

Commodity-wise, barring certain items such as oil-cakes, tea, jute and semi-processed leather, other export products have been doing well. In April-December, 1983 gem and jewellery exports registered an outstanding percentage increase of 287.12 per cent over the corresponding period in the previous year. Similarly mineral fuels, lubricants and petroleum products were on the upswing. Other exports which show a percentage increase of over 100 per cent are manganese ore, yarns of man-made fibre and mineral manufactures. In the agricultural and allied products, live animals, cashew kernels, vegetables and fruits, tea, spices and raw cotton have done well. In manufactured goods, cotton fabrics, silk fabrics, leather and leather manufactures, rubber and rubber manufactures, travel goods and hand-made carpets have also shown significant increases. Likewise, engineeering exports, project exports and our consultancy services abroad have developed rapidly. In civil construction works, which formed a major part of project exports, Indian firms have made their mark and contracts worth over Rs. 1,100 crores were executed during 1983-84.

Curb on imports

On the import front, Indian has still a large outgo on petroleum and petroleum products, edible oils, fertilisers and chemicals, paper, minerals, steel, machinery including transport equipment, synthetic fibres, various kinds of capital goods and so on. In fact, to restrain growth of bulk imports and of imports generally, import substitution is being sustained by more rapid growth of non-oil sectors through better management, avoidance of industrial unrest, timely supply of inputs for products and continuous monitoring of performance. Investment priorities, however, need to be modified to ensure a relative larger allocation of resources to these sectors. Import substitution in the energy sector through oil expected that production in 1983-84 of crude oil would be nearly 26.2 milion tonnes, thus reducing the relative share of petroleum and its products in India's total imports.

An important step in export promotion is the cash compensatory support scheme which continues to be effective for a number of product groups. The Union Government is now considering possibilities of providing this support for the export of saleable steel. It has been felt export of steel should be on a continuing basis to achieve better capacity utiliisation in the steel plants and to maintain an equilibrium between domestic demand and availability at the optimum level. The practice of withdrawing from export markets during periods when domestic demand outstrips availability has not helped in increasing steel production.

India's vast and extensive coastline provides the breeding ground for numerous species of edible fish. The resources of the sea for export of marine products have barely been exploited. Deep sea traveling has yet to make its impact. The Government has, in recent years, given a big boost for exploiting the sea resources. Surely, Indian economy has undergone remarkable changes in foreign trade sector, utilising both internal and external resources. Despite international recession and protectionist policies, the country has become an important exporter of highly sophisticated manufactures all over the world. Now greater emphasis is being placed on maximising the domestic value addition rather than exporting commodities in the form of raw materials or semi-finished goods. While a lot of improvement is being made in product-mix of agricultural and industrial sectors, perhaps India could also consider switching over to a judicious system of barter with other countries for boosting foreign trade and international cooperation. The imperatives of economic growth demand that exports need to be regarded as one of the highest national commitments by the Government and the Business. However, production alone is not enough; better productivity will have a crucial role to play. □

Encouraging one child families

M.G. Bhasin

Perhaps it is not too early to encourage one-child families. It will reduce the burden on the state, enable the land to become rich and beautiful, increase the scientific attitude of the people and make them healthy and happy.

THE PHENOMENON of population growth—too many, too few is governed basically by two determinants :

(i) passion between sexes—their fecundity and fertility, and

(ii) desire to satisfy human needs and wants basic and higher.

The nature of population growth is like an elastic; depending upon how much it is stretched. Its intensity and magnitude makes its scope vast and complex. Hence it requires a multi-disciplinary approach for it's rational appraisal, and an inter-disciplinary task force to wipe out the problems it creates.

Broadly speaking, population growth results from births minus deaths. Its rate may be calculated as below :

P.G.R. (Population growth rate) B.R. (Birth rate) D.R. (Death rate) M (Migration)

The crude birth rate, in turn, is obtained as below :

Crude Rate $= \frac{m}{p} k =$

m = Total number of births/deaths in a given areas during year
———————————— yk = 1000
P = Total number of people living in the area at the midpoint of the year

The basic demographic statistics (1981) of Andhra Pradesh may be taken to illustrate the intensity of the situation. This was the first linguistic state formed on Indian political map on account of its distinctive art, culture, sculpture, music, dance etc. Table I shows area and population in absolute numbers, and certain other aspects in percentages. Table II shows decadewise variation for fluctuations in population growth for A.P. A glance at the Census of India (1981) would also reveal interdistrict variations. viz., Rangareddy has the highest population growth rate (42-43) and Srikakulam the lowest (7.51). A further look would reveal rural-urban differentials at all levels of analysis. Certainly this type of appraisal ought to form the basis of strategies designed to achieve population growth to zero, a stage where birth equal deaths.

Table I

	Total	Rural	Urban
1. Area in Km. :	275,068		
2. Population : Persons :	53,592,605	41,134,896	12,457,709
Males :	27,116,081	20,712,808	6,394,273
Females :	26,476,524	20,413,088	6,063,436
3. Sex Ratio (Females/thousand males)	976	985	948
4. Proportion of rural/urban population to total population	100	76.75	23.25
5. Illiteracy-rate (including 0-4 age group) Persons :	70.28	76.77	49.87
Males :	60.97	67.77	38.95
Females :	79.82	85.90	59.34

(Source : Census of India 1981 Series II Andhra Pradesh).

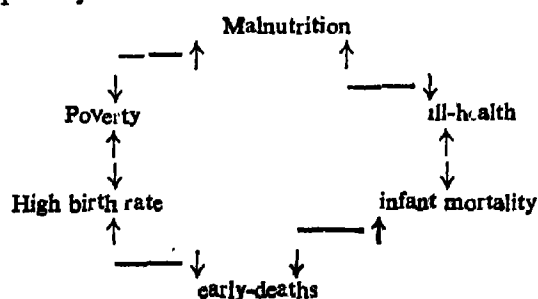
TABLE II
Andhra Pradesh
Percent change in Population

	1901-11	1911-21	1921-1931	1931-1941	1941-51	1951-61	1961-71	1971-81
India	+5.75	0.31	+11.00	+14.22	+13.31	+21.55	+24.79	+24.74
Andhra Pradesh	+12.49	0—13	+12.99	+12.75	+14.302	+15.65	+20.09	+22.78

("Population"take off" occurred after independence").

Genuine commitment

Throughout history population growth has been identified with pride, prosperity and strength. But to-day we are threatened by population explosion, because the number of people in the world exceeds 4,500 millions and it is increasing by 200,000 everyday.

The matter cannot be delayed any longer in developing countries like India. Here each one is looking forward for a break-through in the vicious circle of poverty. This is as below :

Vicious circle of poverty

In my considered opinion this situation can be reversed only by (i) late marriages (above 26 years) (ii) late schooling (8 years) and universal use of contraceptives to avoid child births. Also we should launch vigorous campaigns for one-child families without further delays. It will mean many benefits— not only here in Andhra Pradesh but everywhere. It will reduce the burden on the state, enable the land to become rich and beautiful, increase the scientific attitude of the people, and make them happy and healthy. But it is not an easy task to reduce the growth rate from 2.34 to "0". Nonetheless, it is achievable by :

(i) genuine commitment of leaders to health-based family welfare programmes at global, national, regional and local levels, and

(ii) wide availability of cheap, safe and secure fertility control techniques and methods, their voluntary acceptance, and, adoption. □

Oral rehydration scheme to prevent diarrhoea

RURAL UNIT for Health and Social Affairs, RUHSA P. O., North Airthcot district, Tamil Nadu, has launched an intensive educational programme to prevent diarrhoea and diarrhoeal deaths among children below five years in K. V. Kuppam Block. Diarrhoea causes loss of water and salt from the body which ultimately results into death. It is known as Diarrhoea and Oral Rehydration Scheme (DORS).

The programme is designed to reach the mothers, school children and other adult groups through the community volunteers and staff of RUHSA to impress upon them the usefulness of Oral Rehydrations Solution (ORS) in preventing diarrhoeal deaths. The scheme endeavours to decrease both the deaths due to diarrhoea and the incidence of diarrhoea in children over a two years period.

People have by and large realized that such deaths are not only preventable but also preventive measures are simple and can be taken with ingredients available at their home. If the loss of water, salt and sugar is replaced, then deaths do not occur. The replacement is done orally. Oral rehydration solution can be prepared at home by mothers and it is now considered more useful than ORS packets

The scheme involves a multi-media approach using various avenues of communication to bring about changes in the understanding of the causes of diarrhoea and its management at the community level with the use of ORS. The programme has been initiated with a baseline survey in August, 1983.

The objective of Diarrhoea and Oral Rehydrations Scheme (DORS) are · (1) to decrease deaths due to diarrhoea in the 0-5 years age group children by 50 per cent over two years, and (2) to decrease the incidence of diarrhoea in K. V. Kuppam Block over the next two years.

Process objectives of DORS, at the end of two years, will cover 90 per cent of mothers who will be able to identify the causes of diarrhoea; recognise the effects of loss of fluids in diarrhoea, describe the consequences of diarrhoea; explain the role of ORS in diarrhoea; describe how to prevent the onsent of diarrhoea; and describe how to prevent the spread of diarrhoea. When tested 90 per cent of mothers will be able to make ORS correctly and 75 per cent of mothers of children with diarrhoea will have used ORS. Besides, 75 per cent of the community will be aware of cleaner and safer feeding practices.

A major objective of RUHSA will be to facilitate adequate drinking water for every village. □

TOWARDS SOCIAL REVOLUTION
a Case for Economic Democracy -
VASANT SATHE

A Serialisation 5

The political system

Post-independence scene

THE SURGERY PARTITION RESULTED in a blood bath and left a deep scar. However, it left the two parts at least with the freedom to follow their own paths of progress and development as two distinct nations.

Now comes the major question of democracy. Both India and Pakistan, and for that matter, many other countries in Asia, initially adopted a democratic political system in their Constitutions. But because the essentials of the democratic system had not been allowed to catch roots and sprout into a strong tree, many of the democracies have fallen prey to the axe of totalitarian dictatorship.

We in India have had the singular fortune of having the background of the freedom struggle under the leadership of Mahatma Gandhi. This has not only given us a strong sense of nationhood but also brought great intellectual stalwarts on the scene who together applied their minds in the Constituent Assembly to give to this country a workable democratic Constitution. Right from the beginning, the founding fathers of the Constitution knew that Indian society was basically federal in character because of linguistic and cultural diversities. Geographically also, India is a large subcontinent and the people in different parts have developed separately over the past thousands of years. The main factor which sustained them in a common bond over this period has been the depth, flexibility and continuity of the *Sanatan dharma.*

Th people, therefore, wisely felt that in modern times they needed only to adopt the principle of equal respect for all forms of religious thought to make secularism the basis for India's Constitution along with political democracy. Language being the main force through which education, culture and heritage were closely linked, the founding fathers, shortly after the framing of the Constitution, agreed to restructure the Indian states on a linguistic basis a process which was begun and completed in the nineteen fifties.

In view of this, it is easy to understand the need for having a common language which would be understood by the entire people of the country because language is the only medium for communication of ideas, thoughts and knowledge and is the best unifying or binding factor for any people who claim to be a nation. However, with the best of intentions, it has not yet been possible to accept one common language for the entire country. The existence of English as a language of the educated classes which are spread out in all parts of the country and continue to occupy all important positions, both in government as well as in industry, has made it even more difficult to adopt an Indian language as a national language.

After all, language is, in spite of all emotional attachments, mainly a vehicle for the communication between people and people and, hence, unless the people find the necessity of having a particular language as this vehicle, they would not take to it. It is well known that people, when they go for trade from one region to another, very soon pick up the language of the latter region.

Rationally, people belonging to different parts of the country are aware that the most convenient and widely spoken language which could be adopted as a national language would be Hindi or Hindustani. But obviously, no language can be imposed and it is this sense of imposition which creates resentment and hostility. I have often felt that more harm has been done to the spread and acceptance of Hindi by the so-called champions of Hindi than its opponents, and I can say this being a person whose mother tongue is not Hindi, but who has acquired sufficient command over this language. Even today I sincerely feel that if Hindi as a language and as subject could be voluntarily introduced at the primary school level throughout the country, to grow with the students in higher classes, within a period of 10 to 15 years, it would become the language of practically every young educated person in the conutry. But under no circumstances must feeling be created of imposition and no time limit should be set for adoption of Hindi. Let it at the same time be understood that Hindi itself must evolve by accepting and adopting words from various languages of the country Some day it would be considered useful and expedient to adopt one

common script, which may preferably be Devnagri, not only because it happens to be the script from which most of the other scripts of Sanskrit-based languages have originated, but also because even from the grammatical and linguistic point of view, being phonetical in character, it would be one of the most convenient and useful scripts. Even there, certain modifications could always be made.

The leaders of India felt and held a near unanimity of belief that India could bring about a balanced economic growth only if it adopted a system of planned development where there would be freedom from exploitation and the benefits of growth and an equitable share in the units of growth could be enjoyed by all people. Soon even this principle was adopted in the preamble of the Constitution and was termed the objective of socialism.

A human community, when it is organised for an orderly life in a given territory, becomes a state and a group of communities which acquire a feeling of oneness is called a nation. A people as a state create a mechanism through laws which include a constitution and other regulations to conduct the affairs of social life, be they political, economic, defence, or external relations and this organised structure is called the government. In a democracy, the people as a whole are deemed to be the final determining factor in all matters concerning their life. But, in practice, as the number of people spread over a sizeable territory is very large, they have devised a mode of electing their representatives periodically and delegating to them the power to manage the affairs of the government. This elected body is given different names such as parliament, congress or assembly. It is this body which is the custodian of the sovereign rights of the people, and being perpetually answerable to them, if it does not fulfil the trust reposed in it, the people have the right to change their representatives in it at the end of the fixed term.

Hence, no body other than the elected representative body can claim to have the right to either make or interpret the will of the people. The Indian Constitution, like any other corpus of laws, also lays down the structure of the government. The power to amend it lies solely with the elected representatives who, if they act arbitrarily, are answerable to the people at the polls. No body, for example, a court, howsoever eminent, can claim to speak for the people, much less bridge the right of the elected representatives who alone can be custodians of the sovereign will of the people. If these custodians go wrong, the people can rectify their mistake by having them changed, but if the highest court goes wrong, there is no higher body which can correct it. It is one thing to say that a body like the Supreme Court or a High Court, consisting of judicial experts can be entrusted with powers to examine whether any laws are in conformity with the will of the people as expressed in the Constitution as amended from time to time and another thing to say that the elected body, namely, Parliament, has no right at all to amend certain articles of the Constitution. Such a proposition would be the very negation of democracy.

Hypothetically, it can be argued that an unscrupulous Parliament, even by two-thirds majority in both the houses, is capable of amending the Constitution to take away the democratic right of the people altogether and impose a dictatorship. It can also be argued that even a most beneficial amendment like the right to work or putting a ceiling on urban property could be struck down as ultra vires by the Supreme Court. In the first instance, the people at the first available opportunity can throw out their erring representatives. But in the latter case, they would have no such option to correct the decision of the full bench of the Supreme Court even if they consider it to be totally contrary to their will.

We are not considering subversion of the democratic Constitution by a military dictatorship. Because, in that case, even the Supreme Court becomes redundant.

The preamble to the Constitution of India is as follows:

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to secure to all its citizens:

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUITY of status and of opportunity, and to promote among them all;

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation.

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.

We have now to consider whether the aforementioned objectives are being fulfilled by the socio-economic system that we have adopted or, for that matter, even by the political system which we have enshrined in the Constitution. I will first deal with the political aspect, that is, the democratic structure.

The democratic structure

Politically, we have come to accept that a democratic political structure gives the best opportunity to the freedom of an individual, not only to think and express himself but also to pursue his creative talents in the spheres of his choice. The best description of this democracy has been that it provides a political organisation of human affairs which gives a government 'of the people, by the people and for the people'. The larger question is : Can this political structure also not create an economic structure, with the organisation and management of material and human wealth, generating resources, in which the economy may also be 'of the people, by the people and for the people'? Must it remain a distortion of being 'in the name of the people, by the few and for the benefit of the fewer' ?

The first prerequisite for a democracy is that the people should not only be free to elect a representative government but should also have a permanent and continuous authority to be able to supervise and exert their influence on the elected representative government. To the extent that this continuity, effective participation and influence on the government prevail, the democracy would be stable and strong. But if the election becomes a formality to be gone through once in four or five years, and when those in the government feel cut off from the people, are not responsive to their needs and do not feel responsible to those who elect them, then the very roots of democracy start to erode.

The other prerequisite for a democracy, particularly for a parliamentary form of democracy, is the availability of a clear and identifiable choice to the people, mainly at the national level, which would enable them to choose their representatives and leaders who could provide a stable administration and government, holding together the entire country in the bond of national unity and integrity.

In my opinion, what has remained the greatest drawback of Indian democracy is the fact that although more than 36 years have passed since Independence, a viable alternative to the Congress Party at the national level has not yet emerged. The reasons are many, and it will not serve any useful purpose, at least for the limited purpose of this discussion, to go into details. Suffice it to say that the main force of the Independence movement which had grown in the name of the Congress continued to be the main political party to represent and to lead the nation unitedly while an alternative force which would need to have essentially a nation-wide acceptance and be able to inspire confidence in the people about its capacity to uphold and implement the objectives of the Constitution could not emerge at all.

Most of the opposition parties have, in fact been offshoots of the Congress. This could have given them a basically healthy character of providing the same or similar image, but in their anxiety to gain power quickly, they joined hands and compromised with forces which were known for their communal or non-democratic character. As a result, these democratic socialist and secular elements also lost their credibility.

Again, a major factor responsible for the absence of the evolution of a viable political alternative at the national level has been the narrow personal ambitions of leaders who did not have the patience to nurture the growth of a national alternative. This became apparent when the people of India were good enough to provide a massive opportunity to the entire opposition to form a government at the national level in 1977. But the leadership threw away this great opportunity mainly for personal reasons, yearning for positions of authority and power.

The defeat of the Congress had also shaken it to its roots and had brought out not only its basic strength but also its inherent weakness. Its basic strength lay in the fact that the Congress had its roots in practically all parts of India, spanning out to the villages, and that given a rallying point at the national level, the party could rally round such a person or leader. But the real weakness lay in the organisational structure. The Congress was initially a movement and not a political party in the real sense of that term. Sometimes, I feel that even in the later periods the leadership of the Congress has, as a matter of unwritten understanding as it were, allowed the Congress to remain a loose movement and has, in fact, never attempted to make it a well-organised political party. This might have had its advantages for some time as a dividend obtained from the Independence struggle, but the time has now come to think whether such an amorphous organisational structure can really deliver the goods. What has afflicted the Congress has, more or less, afflicted other political parties as well. There is hardly any party with a well-knit organisational structure which can claim to prevail and pervade throughout the country and hold the nation together

The political structure, whether of a party or the state is, after all, a means to an end; the end is the well being of the entire society which creates this political structure. We have to consider to what extent a particular political structure has served this basic objective of being conducive to the welfare and well being of the people and has contributed to their growth and progress.

For the Constitution of the country, if party-based democracy, whether in the parliamentary form or in the form of a presidential system, is to prevail, then it is imperative that the structure of the party be so organised as to continuously provide an arrangement not only for the people to elect their representatives freely and periodically but also the possibility of, and an opportunity for, their active participation in implementing the policies and programmes accepted by the people through their representatives. To the extent that there is such an arrangement, democracy will prevail and be effective in the actual implementation of policies and programmes.

India has inherited a whole administrative system in which a permanent civil service ran the administration of the country right down to the village level. This has no doubt provided a system of administration which was originally intended to enforce law and order and to facilitate the collection of revenue. As the areas of activity grew, either controlled or encouraged by the government in the economic, social and technological fields, this administrative apparatus was also enlarged. It is this administrative structure, consisting of brilliant officers selected from among the best material in the country which, for all practical purposes, runs the administration of the whole nation even today.

To the extent that the political authority, as representing the people could lay down policies and programmes that would be conducive to the welfare of the people and could ensure their implementation through the administrative machinery, it could provide a workable democratic apparatus. But we have learnt from experience that very soon a

hiatus develops between the political party and the administration. The administration, in the nature of things, is normally status quo oriented, and, because it has no direct responsibility for implementing the socio-economic programmes, it always tends to justify itself by trying to be safe on the files. A whole system of paper work, of checks and counter-checks, at all levels, grows into a virtual labyrinth. The main cause of delay at the decision-making levels is because of the absence of a nexus between the decision-making authority and those who have to implement the decisions.

Hence, unless we reorient or restructure the administrative system so as to make it not only responsible for assistance at the decision-making level but also for the implementation of the programmes approved by the people through their representatives, the system as it exists will not show results or be efficient.

But what is more important for democracy is the need for the participation of the representatives of the people in both policy-making and its implementation. Today, we find that the whole political apparatus, namely, the political parties as well as the legislatures, is becoming more of a formality and a superficial entity, existing as if to fulfil a ritual of democracy rather than being an effective instrument of social change, both in terms of policy-making and implementation.

If we look at the working of Parliament or State Assemblies, we find a whole body of elected representatives sitting for months together and giving vent to their feelings in a general way, but, because of the system, hardly ever able to contribute in depth to the legislative process.

In practice, on any given Bill, only a few members can speak and, that too only for a few minutes, normally between seven and fifteen. The Bill in question would have already been drafted by the administrative body as representing the will of the government or the party in power. Under the existing system, there is no political forum, therefore, where an in-depth or a critical application of the mind, even at the basic policy-making or legislative level, takes place because, apart from general observations, on an entire Bill consisting of several clauses, one can hardly expect any member, however intelligent he may be, to make a useful and substantial contribution.

It is, therefore, imperative to evolve a structure in which Member of Parliament could meet in smaller groups or committees according to each individual's inclinations or knowledge of subjects and in which the legislative process could be discussed in greater depth. Indeed, such a structure has been evolved in other democracies and is proving to be more effective. At least, it provides better and more real participation.

If the superficiality is latent at the legislative level, it is more apparent at the executive level. At the latter level, apart from one person who is supposed to be the minister, in the entire executive hierachy and structure, no elected representative of the people has any voice or even contact. Theoretically, the minister is supposed to be responsible for implementing the decisions and the programmes, but obviously, no individual can operate at all levels and being like a bird of passage, his responsibility for implementation remains only a theoretical concept. In effect, the entire responsibility for the implementation of the laws and decisions made by legislation is left to the will and the capacity of the administrative system.

The party organisation has some superficial concepts as already stated, but at all other levels, it hardly has any voice. And if it did have a voice, it has no powers and responsibility for the implementation of programmes at any level. Members of the party organisation are placed on various advisory committees in an honorary capacity and as they have no responsibility, they become more of a nuisance than a help. There is a plethora of committees and bodies to which the administration is accountable simultaneously, and this has only a nagging and retarding effect.

In the light of the experience gained over the years, a time has come to consider in what way can we make the party cadres not only responsible and effective in the legislative process but also actively participative in the entire process of the implementation of the policies and programmes at all levels.

Somewhere at the back of their minds, politicians in this country have a feeling that the political cadre, as against the administrative cadre, must consist of people who are imbued with a sense of selfless service and sacrifice, that they must work without expecting proper and fair remuneration. This is a hangover of the past and has led to such a hypocritical approach that it has vitiated the entire political character of the democratic parties.

Take, for instance, party organisations. Nobody has ever believed that party organisations also need whole-time office-bearers who have to be paid a reasonably decent remuneration to maintain themselves and their families. At the time of an emergency, such as a war, almost every citizen does extra work as a volunteer, but in normal times we cannot expect everyone to put in a whole-time voluntary effort without a means of livelihood. The result is that party organisations have no proper funds of their own, do not have proper buildings or premises to carry out official work and, above all, do not have properly paid office-bearers. This is true of all political parties. Sometimes, it is amazing to think that whereas individuals, many of whom have had nothing to do with the freedom movement, have managed either individually or in the name of some institution to acquire expensive plots of land in most of the cities of the country and have erected buildings from which they get huge rents every month, yet nobody ever thought of putting political parties, which are the very basis of democracy, on a sound financial footing whereby they could have recurring revenue, either in the form of rent or interest income,

and from which they could maintain a well-paid and efficient party administration.

The result is there for everyone to see. The only avenue for a political activist of any party is to try to get into legislatures; whether or not he has any knowledge or inclination making him capable of applying his mind to legislation becomes immaterial, because, that is the only way he can acquire both remuneration and status. At all other levels, the rest of the party members have only one role—to serve as agents or go-betweens between the political authorities in the government and those having industrial or business interests. Their activities are limited to either trying to obtain licences or permits for others in the hope of getting a cut or commission from them or trying to get some people transferred or promoted. This is the only way they can exert their influence and maintain their apparent status in society as party members. It is indeed painful that a dedicated party activist in a democracy cannot be paid a monthly remuneration equivalent to even that of a peon in the government service or a bank.

It is, therefore, to be seriously considered how the active members of a party can be openly and honourably associated at various levels of the implementation and the execution of policies and programmes along with the administrative system so that they can be held accountable as a unit in which the people place their confidence.

Once there is a lurking feeling that the members of a political party need not and should not have any participatory role in the functioning of the government at different levels, then slowly, but surely, the whole party structure starts getting diluted to an amorphous state. It is then called a movement—a perpetual mass movement—so that there need not be any responsible cadre nor any need for maintaining them.

In such a situation, there is no serious need for any membership because members are not supposed to have either any rights or responsibilities. All that we need is a loose apparatus which will become active at the time of elections to organise and canvass votes and this is now provided by that category of people who know how to benefit from the elected representatives and the government. Hence, for the last so many years, no political party in the country has really had any serious membership where members from the grass-root level have exercised the right to elect their representatives upto the highest bodies. And unless the basic concept of the role of the party membership becomes clear, the present situation will continue to exist.

Thus, the democratic process becomes a superficial form, and, if one may say so, even a force at the party level, a formality at the legislative level, with an efficient but unaccountable administrative machinery at the executive level, and above all, a 'holier-than-thou' attitude at the level of the judiciary.

The Press as the fourth pillar of democracy and as a mirror of society reflects the general dissatisfaction and frustration of the people, and very soon the entire democratic process and system of civilian authority starts getting eroded and discredited. Then, it is only a question of time before the entire structure collapses to be replaced by an authoritarian form of government, which mostly is a military form of dictatorship and which alone has the sanction of the gun.

It is true that democracy has entrenched itself deep in the hearts and minds of the people of India, and the fact that the Indian people have demonstrated tremendous sagacity and common sense has been the only saving grace and redeeming feature of democracy. Also, the fact that elections have been, by and large, free and fair has also contributed to the strengthening of democratic roots. Another factor, i.e., the size of India, has also contributed indirectly to the country not succumbing to any centralised authoritarian form. These factors have aided the continuance of the democratic apparatus, and one always hopes that this pattern will continue. But, on the other hand, if we allow the vitals of democracy to be weakened and eroded by, in effect, rendering them paralytic, this is bound to affect the entire body politic sooner or later.

Hence, there is an urgent need to consider restructuring both the party system, so as to make it more participatory, and the administrative system, so as to make it result-oriented and accountable. □

(Next Issue, SUSTENANCE OF DEMOCRACY)

Power Generation Target for 1984-85

A TOTAL GENERATION of 154 billion units has been programmed for 1984-85, comprising 98.5 billion units thermal, 3.5 billion units nuclear and 52 billion units hydro.

Although an additional generating capacity of over 14,000 MW would be commissioned during the Sixth Plan period, there will still be power shortages in different parts of the country because growth in demand for power due to industrial and agricultural development and extensive programme of village electrification.

Capacity addition

The Union Energy Ministry is of the view that this situation can be met only by a much better utilisation of existing capacity and by expediting the installation of new generating capacity. Moreover, a greater emphasis has to be laid on setting up of adequate transmission system and energy conservation in the context of the existing power shortages.

It is proposed to add a total of 3,399 MW of new generating capacity during 1984-85. This will comprise 602 MW hydro, 2,562 MW thermal and 235 MW nuclear. The units identified for special attention in this regard are : Ropar Unit-2 (Punjab) ; Kobra West Unit-3 (MP) ; Patratu Unit-10 (Bihar) ; Farakka STPP Unit-1 (Central). Besides these, there are some other thermal units such as Anpara Unit-1 (210 MW-UP) ; Parli Unit-4 (210 MW Maharashtra) ; and Bongaigaon Unit-4 (60 MW-Assam). All these units are currently under implementation. □

The changing status of rural women

H. G. Hanumappa and
T. M. Sujatha

Mahila Mandals are doing positively good work for improving the lot of rural women. Training in stitching is very popular among rural women as it helps not only in saving money but also in earning it. Keen and sincere interest of the organisers of Mahila Mandals can go a long way in helping rural women to acquire new skills and lead a better life.

THE MAHILA mandals or the womens associations set-up at the village level can be considered an important instrument of change among rural women who remain one of the most backward sections of our society and there is an urgent need to develop their overall personality. One of the best possible ways to accomplish this is to encourage formation of more and more mahila mandals in the villages and use them as change agents.

Most of the rural development projects contain very few programmes for women and children. Community development projects were first launched in 1952, the welfare organisations began their activities in community development blocks with coordination committees and were called welfare extension projects. In 1961-62 the activities were handed over to the rural organisations called mahila mandals.

Mahila mandals

According to the available information there were 58,300 mahila mandals functioning at the end of 1975-76 with an average membership of 364 per block. In Karnataka, Mahila Mandals are registered under the Societies Registartion Act. The growth and development of mahila mandals depend on the extent of active participation of grama sevikas. It is the grama savika, who has to initiate the rural women to enrol as members of mahila mandals. The functions of a mahila mandal are looked after by its office-bearers, who are elected or nominated from among the members to took after the functioning of mahila mandal. Regular visits of officials, (both grama sevikas and mukhya sevikas), attendance of teachers (both to the mahila samaja and balwadi) and interest of the members of the Mahila Mandals in taking up maximum number of programmes are some of the essential requirements for the successful functioning of these organisations.

Broadly the aims and objectives of mahila mandals encompass such activities which can promote socio-economic and political interests of the rural women, through voluntary action based on democratic principles.

Institutions like mahila mandals should become part of the village life and in the due course much can be expected from certain well established mahila mandals and such other voluntary institutions which can look after the educational, social, economic and cultural needs of the rural women.

A case study

Here an attempt is made to assess the functional impact of mahila mandals in the process of socio-economic upliftment of rural women. Bangalore rural south and north taluks form the area of the present study. There are thirty six mahila mandals working in Bangalore rural south (13) and north (23) taluks. Sample of ten mahila mandals each from Bangalore rural south and north taluks were selected, which were reported to be functioning well. Twenty different mahila mandal presidents and eighty other participants were selected randomly for the study. Separate questionnaries for the committee members and the participants were prepared.

Rural women come in contact with one another at the initiative of grama sevikas or mukhya sevikas.

On a day decided by the sevikas, all the members are called for a meeting to elect the office bearers from among themselves. Each mahila mandal usually has a president, a vice-president and a secretary. The staff includes teachers for both mahila samaja and balwadi and a servant (Aya). They are appointed by the government or the village panchayat. Mahila Mandals are supposed to keep the records of its functions, finances etc.

Results

The following are some of the socio-economic characteristics which emerged from our study of office-bearers and members of mahila mandals. With regard to the composition of the age of the committee members, 65 per cent of them were in the age-group of 30 to 50 years.

More than 75 per cent of the presidents of mahila mandals were the wives of the village headmen or chairmen or patels (gowda). Remaining 25 per cent were from those who were interested in the welfare activities of the community. One secretary of a mahila mandal has been serving in her organisation for the last 25 years, with a sense of dedication.

70 per cent of the office bearers were from Vokkaligas, 20 per cent were Brahmins, 10 per cent Lingayats. 70 per cent of the office-bearers were rich belonging to families having more than 25 acres of land.

72.5 per cent of the participants in different programmes were from higher castes and 27.5 per cent were from S.C. and S.T. and their participation has been quite good.

With regard to the educational qualifications of office-bearers, 55 per cent had studied upto high school or S.S.L.C. None of them were reported to be illiterate.

63 per cent of the members (participants) had studied upto 10th standard. All the participants reported were literates.

In terms of marital status, 85 per cent of the members were married and 15 per cent unmarried. 17.5 per cent of the participants were employed women. 74 per cent and 26 per cent were from nuclear and joint families respectively. Duration of participation indicated that those with one year participation were more (34 per cent) and those with participation of 9 to 10 years were not many (3 per cent).

From the data we could identify 5 major activities of mahila mandals:

I. Skill formation which includes training in crafts, tailoring, adult literacy programme, using of pesticides and new methods of agriculture and resources utilisation.

II. House Keeping which includes house keeping programme, kitchen gardening, improved method of cooking, family planning programme and child care programmes.

III. Health and Hygiene Programmes which include keeping the village clean, preparing manure beds, sanitation programmes, keeping the drinking water well clean and special programmes for the dropouts among the school children.

IV. Balwadi Activities cover baby show, play activities of balwadi programme, learning activities of the Balwadi programme, drama, field activities (sports) and music programmes.

V. Recreational programmes cover sports activities public lectures, public functions, filmshows and entertainment. These programmes also cover Saraswathi Pooja, Independence day, Republic day and special programmes : film shows for the benefit of farmers.

If we take a look at the attendence of women-members in various programmes, we find that tailoring and craft classes are highly popular. More than 90 per cent attendence was reported in both these programmes. Training in tailoring activity helped in saving some money which was being spent on getting the clothes stitched, and also helped in utilising their leisure time in stiching clothes for others and resulted in earning some extra income for the family.

In the village Hesarghatta typewriting training programmes organised by mahila mandal have been very popular.

One notable feature of the mahila mandals that we studied was the interest that members evinced in arranging excursions to various tourist and pilgrimage centres inside and outside Karnataka. Though the highest number of women-members visited places like Bangalore and Mysore, the response to other places also was quite encouraging. This tendency indicates the growing interest among rural women to visit different places.

When asked about the future plans of these Mahila Mandals, many have responded and have supplied a list of these programmes. Improvement in tailoring and crafts finds an important place in the future plans of these mahila mandals.

Improvement in life style

The women participants felt that the mahila mandals are doing positively good service to the rural women. As there is some improvement in the socio-economic life of rural women, all the participants of the mahila mandals whole-heartedly suggested for its continuation in their villages. They felt, mahila mandals helped them to improve their general knowledge, but expressed the doubt whether mahila mandals could help them to improve their total personality. However the participants felt that mahila mandals helped them in bringing about a better understanding among the members and also to improve their status in the village.

With the introduction of mahila mandals in a village, a change in the way of talking of the women, could be discerned. Also there was increased cultural awareness among them and certain improvement in their self-care and behaviour. They were found to be more neatly dressed and were found to keep themselves more clean and tidy in their personal habits. There was an improvement in the social interaction among women, who have learnt the method of talking with others with more confidence and with some sense of assurance. In some cases, there was an improvement in the socio-economic conditions especially

(Contd. on page 20)

Planning for the poor

P. P. Pillai

Let the Seventh Plan have only two objectives, the removal of poverty and eradication of unemployment suggests the author. The rise in G.N.P. has no meaning for those living below poverty line, he adds.

THERE IS NO exaggeration in saying that on a perusal of the plan documents in the past, one gets lost in the too many objectives laid down in them, very often mutually inconsistent. We have, for example, as many as ten objectives in the Sixth Plan. The more the number of objectives, the more vague they remain and nobody can easily audit the achievements of these objectives. It is also noteworthy that the basic objectives of our plans have not changed much since the formulation of the First Plan.

The cry for the eradication of poverty and prevention of concentration of wealth started echoing in India through the National Planning Committee of the All India National Congress as early as in 1938. Poverty and unemployment were considered all these years as the basic issues to be reckoned within any strategy of national economic development in India. However, both poverty and unemployment continue to perpetuate and co-exist with 'growth'.

Impressive growth rate

No doubt, Indian economy had somewhat impressive record of growth during the past plan periods. The Gross National Product (GNP) at 1970-71 prices rose at an annual rate of 3.5 per cent during 1950-51 to 1978-79 and the per capita income at 1.3 per cent. The rate of Gross Capital Formation rose from 14.3 per cent of the GNP during the First Five Year Plan to 23.2 per cent, during the Sixth Plan. The agricultural output increased at an annual rate of 2.7 per cent during this period. The production of foodgrains increased substantialy from 55 million tonnes in 1950-51 to 132 million tonnes in 1980-81 and to 142 million tonnes in 1983-84. Despite these and similar records of 'growth', measured in terms of several macro-economic variables, poverty and unemployment situation in the country has not improved.

As per available statistics, the backlog of unemployed rose from 3.3 million in 1950-51 to 18.3 million in 1972-73. According to NSS estimates, rural male unemployment was 2.59 per cent of the labour force in 1960-61 (NSS 16th round), but this rose to 7.32 per cent in 1977 (NSS 32nd round), while rural female unemployment, which stood at 6.49 per cent in 1960-61, went up to 8.90 per cent in 1977. Similarly the urban male unemployment rose from 2.47 per cent to 9.86 per cent and urban female unemployment from 2.21 per cent to 16.31 per cent during this period.

With regard to the extent of poverty, the Sixth plan Document has admitted that 48 per cent of the population were below poverty line in 1980-81, the cut-off point 1979-80 prices being Rs. 77 per capita per month for rural population and Rs. 88 for urban population.

Prof. V. K. R. V. Rao (1979) has given three alternative estimates of percentage of population below the poverty line on the basis of norms suggested by Bardhan (1974), Dandekar and Rath (1947) and Ashok Rudra (1974). According to the first, the percentage of rural population below the poverty line increased from 29.80 per cent in 1960-61 to 34.59 per cent in 1973-84, and according to another estimate from 34.73 per cent to 40.56 per cent. According to the third estimate, it rose from 66.77 per cent to 70.74 per cent during the period from 1960-61 to 1973-74.

Despite the differences in these estimates, all of them are indicative of the increasing mass poverty in our country along with the GNP. Thus, despite the relatively impressive 'growth' of the economy, poverty and unemployment situation in the country has only worsened. A rising growth rate is not at all a guarantee against worsening mass poverty and unemployment.

It is true that objective of social justice was included in the list of objectives. It is also true that it just re-

mained in the periphery and the development strategy essentially remained growth-oriented. We were preoccupied with investment-oriented western growth theories and growth-oriented development strategies in the previous plans.

Should we not, therefore, think for a while, at least now at the time of formulation of the Seventh Five Year Plan, whether we have been really committed to the various objectives in the earlier plans and whether we have not been adding the objectives of poverty alleviation and eradication of unemployment in the plans just to serve as a thin veneer on top of the other objectives?

Only two objectives

If we really intend to remove mass poverty and unemployment, why not we have in the Seventh Plan two and only two objectives, viz., removal of poverty and eradication of unemployment and try to achieve them. Let us not bother about the various other objectives in terms of GNP growth, etc. Growth rates of GNP, savings, capital formation etc., however large they may be, have no meaning to the masses, if they still suffer from poverty and unemployment.

The development strategy followed in the earlier plans is inadequate to achieve the above objectives as this strategy is dictated by capital-oriented macro theories of development in which distributive justice has no explicit place at all. Moreover, the top-down approach in the plans results in unrealistic programmes at the local levels which do not attract enough local support or arouse sufficient local enthusiasm among the masses.

The basic reason why none of the many old or on-going programmes directed towards achieving distributive justice such as minimum needs programmes, 20-point programmes, the special rural development programmes like SFDA|MFAL, IRDP and, of late, DRDA, NREP, etc. cou'd deliver the goods of the desired order is that all these programmes lacked the real participation of the masses at the local levels of implementation.

Planning, if it is really meant for the masses, should begin at the village|Panchayat level, after identifying the basic needs of the people of the locality and the resource endowments at the micro-level. The people should be got involved in the formulation of the plan itself so as to commit them for its implementation. In fact discussions on plan formulation should be organised concurrently at the Panchayat level with those at the national level. The elected local bodies, voluntary organisations, local offices of political parties, local M. L. As etc. should make a combined and concreted effort to identify and list out the really unemployed and also the poor households in their area and suggest local level programmes, on the basis of the local needs and resources. ☐

Towards self-reliance in mining machinery

S.V. Ali and P. N. Sahi

Emphasising the need for evolving self-sufficiency in the manufacture of mining machinery, the author calls upon the mining equipment manufacturers to strengthen their Research and Development efforts. They should also explore the possibility for effective coordination and use of developing technology for evolving new designs.

INDIA IS ENDOWED with enormous mineral resources most of which still lie buried untouched. There is, therefore, an excellent perspective for the growth of mineral exploitation. Speedy development of the mining industry in a planned manner has been one of the important major objectives of our planning process. We produce about 80 minerals. The ores including fuel, atomic and minor minerals. The gross value of production of minerals other than minor minerals and atomic minerals increased from Rs. 180 crores during 1961 to about Rs. 4,900 crores during 1982.

Systematic and scientific attempt was lacking during the pre-independence era for the development of mining industry. As against the smaller mines of pre-independence times, bigger and bigger mines are being designed in the country. Although there are mines in India which produce a few hundreds of tonnes per year, there are operations such as, Kudremukh iron-ore mine which was designed to produce 20.6 million tonnes of r.o.m. per annum with the help of largest ever equipment used in Indian mines worth about Rs. 260 crores. In the perspective, as the need for larger and larger quantities of minerals raw-material develops, bigger mines would have to be designed with the most modern available technology in order to remain competitive in the mining industry. The age-old pick-mining and head-loading will be replaced by modern mechanised methods even at a faster pace than the present one.

Present Capability

Appreciable competence in the field such as mine planning, design and operation has been achieved in the country. However, the same cannot be said with regard to the manufacture of mining equipment of various sizes and specifications. A lot of mining equipment is still being imported. For equipments where it has been possible to achieve some kind of standardisation and large scale production and for which adequate domestic market is available we have developed reasonable manufacturing competence and capacity. These include, jack hammers, blast-hole drills, drill rods, hoists, locomotives, scrapers, mine cars, excavators, shovels, rippers, dumpers; draglines : bulldozers, etc.

According to a survey carried out in non-coal mines, the most commonly used shovels in Indian mines are 1.17 to 2.30 m^3 size which constitute about half of the shovel fleet deployed. Around 28 per cent dumpers in use are less than 10 tonnes capacity; and those exceeding 40 tonnes are about 12 per cent. And only about 28.5 per cent of locomotives used in our mines, have horse power more than 200; while about 26 per cent have horse power less than 100.

According to one study, we have imported mining equipment by and large because of the fact that the requirement was of special specifications, and that the equipments were not required in large numbers sufficient for creating the capacity within the country. There was also not much of the replacement demand for such equipment. The other considerations for importing mining equipment has been the possibility of obtaining a quick delivery schedule from foreign

suppliers compared with Indian suppliers, and at times the technology adopted for mining was different which could not make use of the indigenous equipment.

Indian manufacturers have not considered it feasible to manufacture some of the mining equipment for which although they had the capability and capacity to manufacture, there was limited domestic demand.

The equipment that have been imported because of non-availability in the indigenous market included, track dozers, blast hole drills of large diameter, fast shaft sinking equipment, winders of various sizes, raise climbers, mobile breakers, locomotives, large capacity LHD's large conveyors shovels of large capacity, CAVO loaders, large size dumpers, tunnelling equipment, etc. During the year 1982-83, equipment over Rs. 40 crores was imported. This included drills of large diameter, electric and hydraulic shovels, conveyors, road headers, etc. or coal mining.

Indigenous capacity

Over the last few years, the production pattern of indigenous mining equipment indicates a continuous growth. This is evident from the following table :

Year	Rs crores
1977	18
1978	24
1979	30
1980	35
1981	43
1982	48

Following is the installed capacity of some of the surface equipment :

	Capacity in numbers Licenced	Installed
1 Excavators and Draglines	380	365
2. Crawler Tractors/Dozers	2040	1177
3. Dumpers	1004	685
4. Loaders	665	590
5. Scrapers	236	78

While most of the indigenous mining equipment manufacturing concerns have diversified operations, some of these manufacture substantial mining equipment. An attempt has been made to manufacture some of the mining equipment, which has so far been imported, by some of the indigenous manufacturers. However, it has been found that the equipment manufactured indigenously; has much higher operating cost compared to the imported equipment mainly on account of higher requirement of compressed air.

Future requirement

Future requirement of mining machinery of various sizes and specifications would depend upon the production programme of the mining industry. Production target for coal for 1984-85 has been fixed at around 165 million tonnes. About 57 per cent has been planned to be produced from the new mines; and about 43 per cent would be contributed by the existing mines. Underground mines would share about 55 per cent of the target and about 45 per cent is expected from the opencast mines. The target for 1989-90 has been placed around 240 million tonnes; and coal production is anticipated to be around 325 million tonnes during 1994-95 and 400 million tonne during 2000 A.D.

In order to achieve these targets, a number of coal mines are under construction; and quite a large number have to be opened. It is anticipated that the new mines will be mostly of large sizes and would use the most modern technology. Many of these mines are expected to make use of the integrated long-well systems with powered supports. Besides, expansion and modernisation of the existing mines would have to be carried out, which is anticipated to generate quite a substantial replacement demand for mining equipment.

For underground coal mine, equipments such as coal cutters, road headers, shearers, long wall face supports trolley wire locomotives, etc. would be required. The equipment for surface coal mining will include shovels, dumpers, draglines, hydraulic excavators, battery locomotives, etc.

In the non-coal sector, the total production of minerals and ores is anticipated to be around 135 million tonnes by 1984-85 which is expected to grow to 175 million tonnes in 1989-90. During 1994-95, this figure is likely to touch 230 million tonnes. This increase in production is anticipated to be met by the projects which are likely to spillover to the Seventh Plan from the Sixth Plan, and from the new projects which would be taken up in the Seventh Plan and thereafter.

These projects are Panchpatmali bauxite mine (NALCO), Gandhamardan bauxite mine (BALCO), Baroi and Rampura-Agucha lead-zinc mines (HZL). expansion of Rakha, Surda, and Kendadih copper mines (HCL), Machkot-dolomite mines (NMDC), iron-ore mines at Meghataburu (BSL) and Bailadila 11 C (NMDC), limestone mines at Bhavanathpur (BSL), Lambidhar mine (UPSMDC), etc. A large number of mining projects are on the anvil for the Seventh Plan. These include Gurubathan lead-zinc mine (West Bengal), Ambamata, lead-zinc mine (GMDC), Basantgarh and Akwali Copper Mines, Jhamarkota rock phosphate mine, and Degana and Sirohi tungsten mine in Rajasthan. Chicargunta and Mallappakonda gold mine (BGML), etc.

The requirement of mining equipment for copper mines during the next decads or so would be of the equipments such as high capacity DTH rotary drills capable of making large blast holes high capacity dumpers and front-end loaders, twin-boom hydraulic drill jumbos, electric and LHDs, and 14 t trolley wire locos. For lead-zinc projects, the requirement would be for equipments such as bigger shovels, front-end loaders, 60 t dumpers, 225 mm rotary drills, etc. Bauxite mines may require hydraulic shovels for undulating floors. For breaking big boulders in the bauxite mine, hydraulic rock breakers may be used.

During the next 10 to 15 years time, replacement demand for mining equipment would be generated. This demand is going to be substantial, especially from those projects which are quite old and where this aspect perhaps has been somehow overlooked. In some of the projects such as Kudremukh, replacement of equipment would have to be provided because of ageing of the equipment.

Strength and Weakness

In order to take care of the future requirement of mining equipment,, we would have to look into the benefits and weaknesses that are there in the system today. The main strength that we have in the system today is the fact that with the infrastructure and industrial base already set up and diversified, the requirement for capital goods and engineering goods is being met indigenously to a large extent. By and large, the same holds good for mining machinery also.

On the one hand our installed capacity for the manufacture of mining equipment has remained underutilised, we continue to import certain equipment on the other hand. This is being done for a number of reasons. Projects implemented under aid from abroad are invariably coupled with supply of equipment. This has been working against stimulation of demand for the indigenous manufacturers. Many a times it has been noticed that mining equipment is imported which have marginally different specifications. Sometimes inadequate lead time is also the criteria for imports. Recently, 15 numbers of 85 dumpers have been imported from Komatsu. These could have been manufactured by some of the Indian manufacturers. The import has been pleaded on the basis of urgency and lower prices quoted by Komatsu. It may not be correct to say that there is a delibrate attempt to place purchase orders with the foreign suppliers by bunching demand together to multiply the supply requirement beyond the capacity of Indian manufacturers. The indigenous manufacturers quote delivery schedule which range from 25 to 30 months even for certain common items for which foreign suppliers quote only 12 months or so. This fact has compelled users to go to foreign suppliers many a time. The indigenous manufacturers would have to quote smaller delivery schedule which compare very well with the foreign suppliers in order to stimulate the demand for indigenous mining equipment. Experience has shown that by and large the foreign suppliers adhere to their delivery schedules; while this is not so in case of the indigenous manufacturers.

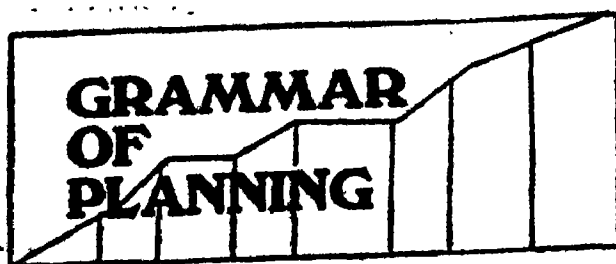
We have not been able to keep pace with the technological development that is taking place elsewhere in the world. In the present technological era what was accepted yesterday as an innovation has become a practice today and is destined to be obsolete tomorrow. This holds good for mining machinery also which is undergoing a continuous change as far as design and sizes are concerned incorporating more of automation and speed. In our context, a certain gap is perceived between the technology desired by users and the technology turned out by the machinery manufacturing industry. This indicates that there is an urgent further need for technology upgradation, which has to be a subject of continuous study, investigations, research and development.

Prima facie standardisation and upgrading of technology may appear to be contradictory, but in actual practice this is not so, since both of them contribute to the development of capability for the manufacture of mining equipment, and do not run counter to each other. The delicate balance between technology upgradation and standardisation have to be realised. The experience indicates that often it happens that even before the equipment have rolled out from the process line, the demand for something bigger gets cultivated. Therefore, it would be necessary for the buyers to see that the manufacturers should be allowed to stay with a particular size of mining equipment for a reasonable period of time to allow them the gains of economics of batch production. If there are frequent changes in the sizes of equipment, it may effect the developmental efforts that the indigenous mining equipment manufacturer might put in.

Experience indicates that in some mines, equipments of various sizes, makes and brands are being deployed. This makes maintenance extremely difficult. It also results into unnecessary inventory built up. According to a survey carried out in limestone mines, it was noticed that in a mine where six shovels were operating, only two were of similar size and four were of different sizes. However, there appears to be a declining trend in the deployment of equipment in such a manner.

Fluctuations in the demand for mining machinery is quite natural and certain bunching is unavoidable It is only the violent fluctuation in the demand of mining equipment which undermines capacity utilisation rather seriously; and it also sometimes results in excess work on the capacity. Therefore, there appears to be a need for making use of better forecasting techniques in assessing the demand for the mining equipments.

There is a need for proper maintenance of equipment and service facilities at site. This would call for improving the maintenance skills of the staff deployed in mines. Manufacturers should consider opening up of small workshops at the centres of mining activity. These workshops should keep adequate stocks of essential stores so that repairs and maintenance could be attended to without loss of time.

The R & D afforts, no doubt are in progress at various institutions and organisations including in-house laboratories of the manufacturers. However, co-ordinated efforts are lacking to achieve the common objective of updating of techuologies and designs of mining equipment. As a matter of policy and programme the mining equipment manufacturers should further strengthen their R&D efforts and explore the possibility of setting up of a working mechanism to develop effective coordination for the use of R & D in developing technology, and evolving new designs. □

A Serialisation 6

P.R. Dubhashi

The district and local planning

Following the 'spatial planning' which is built round the concept of area development (see last issue), the author explains here the importance of district and local planning. He calls upon the administrative machinery, the local government institutions and the leaders of the local society to come together on the planning forum and combine their intellectual power and thinking faculties with their intimate knowledge of local area and community, to help formulate more realistic plans for local areas.

INSPITE OF the importance accorded to the local planning, decentralised planning or planning from below in successive plan documents in India, the actual performance in respect of preparation of local plans has not been satisfactory. During the Second Five Year Plan, an attempt was made to prepare village plans first and then out of the village plans to prepare taluka or block plans and out of the taluka or block plans to evolve a district plan which in turn would be the basis of state plan and the national plan as a whole. This approach, however, never succeeded and indeed was hardly given even a proper trial. What came out of the exercise were long lists of requirements at the village level without any possibility of getting any adequate financial resources to meet these requirements.

The reasons for the failure of this exercise are apparent. The village per se, as an individual unit is hardly a viable unit for planning and development. Prof. John P. Lewis, the American economist described this preoccupation with village planning as mere 'villagism' which must be considered to be inconsistent with any rational or viable planning. Planning cannot attempt to provide self-sufficiency for every village. Planning must have a broader perspective and cannot be contained within the narrow confines of the single village economy. Planning has to be a general and comprehensive process for a much larger area-if not the nation at least the state or the region. Village, therefore, must find a place in the overall process of economic development of the region. In this process, some small villages may even disappear. There can, therefore, be no successful micro-planning at the village level at all. The economic fortune of the village is linked up with a much bigger micro plan.

Block level planning

If the village could not be the unit of horizontal planning then what other area could be ? After the advent of community development programme in 1953, it was advocated that the block consisting of about a hundred villages should be the unit of planning and development. The block budget consisting in the initial year of the CD programme of some Rs. 15.00 lakhs with allocations for various sectors like agriculture, animal husbandry, irrigation, social education, youth development, rural industries, co-operative development, etc., provided nucleus for planning at the block level. It was expected that these resources would be supplemented by the departmental funds and public contributions. So much for the resources side. As regards the requirements, the block development programme began with a survey of every village and on the basis of these village surveys a block plan of requirements was to be chalked out. This exercise of horizontal planning at the block level was carried out during the first ten years of community development programme. This experience, however, showed that the idea of block as a unit for planning and development had not completely materialised. The development activity of the block level was confined, in the main, to the block budget. Even

the plan funds for other departments were not supplemented with it. After the expiry of ten years of the the period of community development programme, even the block budget disappeared. The panchayat samitis, the elected rural local self-government institutions at the block level, were not able to raise any material resources to augment substantially the development plans at the block level, and thus after the expiry of block period, the block organisation was left with limited number of schemes implemented by government at the block level.

District planning

The concept of block as the unit of planning and development was also related to the structure of the panchayat samiti at the block level. It is true that the block was chosen as a unit of planning and development, the idea was that of the three tier local self-government institutions or panchayati raj institutions, at the district, block and village levels. Out of these, panchayat samiti at the block level should be the most crucial agency for local planning. However, later on when, in the states of Maharashtra and Gujarat, district was chosen as a more viable unit for planning and development, the zilla parishad emerged as the most important local development agency. The development plans at the district level were, therefore, attempted in all those states where zilla parishad was the most effective unit. Zilla Parishad had more resources, more competent technical staff and therefore had greater strength to attempt planning for development. However, the nature of planning attempted at the district level by the zilla parishads was on the same lines as that attempted by the panchyat samitis at the block level. It is true that the local sector at the zilla parishad level attempted to cover a much larger spectrum of schemes of development but even then mere combination of schemes within the budget of the zilla parishad and the allocations of the state government at the district level could not be considered to be an adequate arrangement of horizontal planning at the district level.

The unsatisfactory nature of the district planning has been recognised and some thought has been given by economists, planners and administrators to this subject.

One of India's leading economists. the late Prof. D. R. Gadgil gave a good deal thought to this subject which he covered in his R. R. Kale Memorial Lectures on the subject of District Planning. Under his guidance, a District Development Plan was being prepared for Wardha district. In evolving this plan, Prof. D. R. Gadgil worked out certain concepts regarding the framework of the district plan. He identified four principal components which must be part of the district plan, viz.,

(i) Development of natural resources of the district,

(ii) Development of infra-structure facilities,

(iii) Development of productive employment in the field of agriculture and industry, and

(iv) Development of growth centres in the economy.

However, formulation of a horizontal district plan on such a basis would require adequate collection of data, interpretation of this data and formulation of concrete and feasible plans, programmes and schemes for the various components of the plan.

The district plan is a horizontal plan. It is, therefore, one form of 'Spatial Planning'. District plan formulated as a by-product of vertical plan is not the same thing as the 'Spatial Plan'. The 'Spatial Plan' concentrates on the analysis of the local resources and works out measures for the maximum utilisation of these resources, for the production of needed goods and services. 'Spatial planning' combines geographical, demographical and economic approaches in the subject of planning.

Spatial planning

In working out the spatial plan, the economists divide the aggregate economy into regions which are homogenous in characteristics-natural, physical, sociological, economic, etc. Thus, river valley areas. or urban rural areas under the influence of a city centre or a tribal area are examples of the earmarking of special areas from the point of view of spatial planning. The working of Tennessee Valley Authority under David Lilienthal has provided a pioneering example of spatial planning. In India also, in the Fifth Five Year Plan, 55 areas under the major irrigation projects have been selected for command area development. The major irrigation projects in this country created substantial irrigation potential but its utilisation was somewhat tardy in the absence of integrated irrigation development plan. The concept is therefore now accepted that an integrated area development plan must be prepared for the command area. Such integrated command area irrigation development plans will include a series of inter-connected items like the construction of canals, distributaries, water courses and field channels and drops, levelling and reshaping of land, drainage facilities, agriculture extension, training of farmers in irrigation development, prescription of an appropriate cropping pattern, supply of agricultural inputs, rural communication, marketing, storage, processing and town and country planning in the developing area. The irrigation development plan has necessarily to be evolved with the cooperative and conjoint efforts of the various departments like PWD, agriculture, cooperation, revenue, development, etc.

Another example of such a regional planning is the Drought Prone Area Programme. Some 70 districts in India are in the rain-shadow area and are prone to scarcity and famine. The old approach of extension and remission of land revenue, grant of tagai (or takavi) and supply of foodgrains at concessional rates is no longer found adequate from the point of view of the objective of providing permanent insurance to these areas from the effect of drought. A programme has, therefore, been contemplated to restore ecological balance in these drought-prone areas by the development of soil and water resources in such a manner as to provide permanent insurance to these areas from the onset of drought.

A programme of this sort would include the identification of drought-prone areas, identification of water-shed areas within this dry zone, an intensive attempt in these water-shed areas to conserve water and moisture and protect soil through a minor irrigation, afforestation including planting wind breakers, soil conservation, pasture development, etc., and developing subsidiary occupations which are suitable for such dry zones, like animal husbandry, sheep rearing, sericulture, fishery, horticulture, etc. The drought-prone areas may run across several districts.

A third example of horizontal planning are the special programmes for areas along the western ghats which not only extend to several districts within the state but also over several states of Maharashtra, Karnataka and Kerala. Such horizontal plans for natural regions would be receiving increasing attention in the years to come and would form part of local planning.

Horizontal planning

Horizontal planning could exist not only for special areas with special physical characteristics. like agro-climatic conditions and homogeneity of soil and water resources, but would also exist for special groups of population who need special attention because of their neglect in the past.

The leading example of such planning is the Project for Small Farmers and Marginal Farmers and Agricultural Labourers. Special development agencies, in the shape of registered societies, have been established for formulation and execution of such projects in selected districts. These agencies prepare horizontal plans of an integrated sort for dealing with special problems of small and marginal farmers. The programme for the small farmers include their enrolment as members of cooperative societies, giving them short term, medium term and long term loans, subsidising 25 per cent of the loan, providing common projects like a common irrigation well, common fencing or custom service centre and providing supplementary occupations like horticulture and dairy.

The concept of spatial planning is also linked with another approach evolved by the demographers, viz., that of identification of growth centres. The basic idea behind this is that development does not take place without some pattern and the pattern is that of a series of linked centres of growth, each growth centre providing a stimulus to the surrounding areas. An approach to planning which does not take into account the growth centres is bound to lose sight of the dynamics of economic development. The concepts of growth centre has received a great deal of attention from the regional scientists and considerable literature has grown. An attempt has also been made to apply these concepts of regional and district planning and to evolve concrete plans which make these growth centres the nodal points in the framework of planning. This approach envisages a planning hierarchy of growth centres. Four hierarchies of centres have been distinguished :

(i) Central village providing minimum facilities to a cluster of villages like primary school or a health dispensary, etc.

(ii) A service centre providing all basic facilities like a market centre.

(iii) A growth point providing market-cum-service centre to 5—10 service centres of category, (ii). Such a growth point can provide scope for industrial growth.

(iv) A growth centre serving 5—10 growth points with a number of secondary and tertiary activities and specialised facilities. These growth centres provide consumer products both finished and semi-finished of the lower hierarchy. They have a large number of processing activities. Planning for such growth centres would ensure best use of investment in a region since—

(a) it concentrates resources in growth centres in such a manner as to have the maximum spread effect, and

(b) they take into account linkages between the growth centres.

A pilot research project in growth centres was implemented as a Centrally-sponsored scheme during Fourth Plan period. The scheme envisaged setting up of a total of 20 research and investigation cells to evolve techniques and the methodology for the development of emerging and potential growth centres by providing social and economic overheads in delineated areas in terms of a carefully prepared inventory of local needs.

Increasing role of banks

A major development in recent years has been the increasing role that the banks have been called to play in the socio-economic development of our country, particularly, after the nationalisation of the major banks. Before the introduction of social control and nationalisation, the banks were mostly concentrating in the urban or metropolitan centre and their involvement in the planning was somewhat limited. Now the concept of planning includes a combination of budgetary resources with banking resources. Banks are expected to provide institutional finance for economic development, even in the rural areas. The responsibility for such planning for area development through banking resources has been entrusted to the 'lead bank' which is expected to survey the area and identify the opportunities for economic development. Such credit plans by the banking institutions have to be inextricably and intimately related to the economic plan. The credit plan would provide extension of available banking funds to priority projects and needy individuals be they small and marginal farmers or artisans. Such a credit plan must consist of economically viable projects since all banking funds have to be used on a commercial basis and have to be repaid with interest by the beneficiaries. There is a provision for lending by commercial banks at concessional rate of interest under the DIR (differential interest rate) scheme. Opportunities for use of banking funds would depend to a great extent on the facility made available by the general development plan in terms of techni-

cal assistance, organisational support and infrastructure facilities made available by the departmental and other agencies.

Even before the entry of the commercial banks in rural development, the cooperative banks were actively engaged in rural development. While the Primary Cooperative Credit Societies supported by the District Cooperative Central Banks provided short-term credit for seasonal agricultural operations, the Primary Land Development Banks (PLDB) supported by the Apex Bank and the Agricultural Refinance and Development Corporation (ARDC) provided long-term credit needed for investment in land in activities like soil conservation, land reclamation, land levelling, well digging, rorticulture, etc. The ARDC and the International Development Association of the World Bank, which supported these projects, insisted on the PLD Banks adopting the area development approach.

Integrated district plans

The district plans will have to integrate all these different approaches and components within an overall framework. The following components will, therefore, have to find a place in an integrated district plan :

(i) Identification and full utilisation of natural resources,

(ii) Full utilisation of the manpower resources,

(iii) Building institutions and organisations and using them for maximum productive effort,

(iv) Mobilisation of efforts of financial institutions for mopping up savings and their productive investment,

(v) Building up of infrastructure facilities,

(vi) Identification and development of growth centres,

(vii) Provision of minimum needs of social consumption, and

(viii) Plan for technological development in rural areas.

Each of these elements would have to be incorporated in the area or horizontal development planning for a district.

Identification of natural resources

The natural resources of an area consist of the soil, water, minerals, forests and marine products. In the words of Dr. Swaminathan : "Of the highest priority is more intensive work on the preparation of an integrated inventory of land, water, mineral and other natural resources, area by area, and the development of scientific plans for land and water use" A district can conveniently be divided into planning units in accordance with the preponderant characteristics of the natural resources available and for each of such units plans could be devised. Apart from the extent and degree of certainty of rain-fall, the water resources available through the rivers and underground water resources will have to be taken into account.

The soils also differ in their characteristics making it possible for diffrent crops to be grown. The black soils are useful for cotton and perhaps wheat and sunflower while the red and light soils are good enough for millets and groundnut specially if the land is somewhat sandy. Thanks to the discovery of new varieties of short-duration seeds, it has been possible to grow more than one crop in a season. It is possible also to scientifically analyse the soils by taking soil samples. Cropping pattern and planning will have therefore to be made on the basis of a comprehensive understanding of soil, water and climatic conditions.

Just as an understanding of the soil resources is possible through soil survey and soil testing, the availability of ground water resources can also be assessed by ground water survey which is now being carried out comprehensively throughout the districts. The district plan, therefore, must take into account the ground water resources and programme the number of wells-dug or bore-that could be attempted on the basis of this water potential. In areas under major irrigation projects, conjunctive use of water resources can be attempted.

Planning for agriculture will have to be supplemented by planning for dairy, horticulture, sericulture, fishery and other supplementary occupations.

In all coastal areas, and the areas with large rivers and ponds, fishery development planning has to be attempted.

Development planning, whether for agriculture, animal husbandry or fishery, has far-reaching backward and forward effect. Thus, for planning for agriculture development, it is necessary to plan for a series of inputs like seeds, fertilisers, pesticides, implements, etc. Planning for horticulture also requires supply of saplings, suckers, etc. Planning for dairy requires supply of pedigree animals, artificial insemination centres, forage and feed for animals, veterinary services, etc. Similarly, planning for production must be accompanied by planning for marketing, storage and processing or else planning for production may face frustration.

It has been recently realised that planning for agriculture must also be the planning for different groups who participate in farming, viz., large farmers, small farmers, marginal farmers, tenants and agricultural labourers. It is first of all, necessary to identify the farmers blonging to the various groups and pay special attention to the small and marginal farmers and agricultural labourers. To the latter, both for supply of inputs and sale of output as well as for productive operations, special facilities on a group basis have to be provided. They have to be brought into the main stream of production.

The above mentioned analysis will show that though agriculture falls within the primary sector of the economy, planning for agriculture and allied productive occupations involves planning for secondary and

tertiary sectors in addition to planning in the primary sector. Agriculture development necessarily involves development of marketing and agro-processing industries, development of industry and supplying of agricultural inputs and development of social enterprises, like marketing and distribution, banking and insurance.

Utilisation of manpower resource

If land is the first factor of production, labour is the second. Labour, i.e., manpower resources need to be developed and utilised in a planned manner so as to get the maximum productive benefit from the skills and talents of the manpower. All the strength, the skill and the capacities of the manpower have to be fully utilised. It is true that most of the manpower is engaged in agriculture and possesses only traditional skills. But different agriculturists do specialise in different types of operations, there are some groups who specialise in horticulture, others in sheep, dairy development, etc. All these traditional skills have to be identified and will have to be further developed through a number of short duration training courses in modern technology, educational tours of the farmers and agriculture extension.

At the same time, skills of artisans will have also to be identified so as to make use of them for modernising agriculture. Agriculture requires new implements. These are not available but could be locally manufactured. The traditional artisans should be trained, organised and financed for production and supply of such agricultural implements like improved bullock cart, or seed and fertiliser drill, or the various implements required for re-shaping of land in irrigation command areas.

The technology of the future will demand collective action by farmers in a village or a water shed area for efficient adoption of modern techniques. Farmers and artisans must be trained in techniques of collective management so as to make the maximum use of manpower and natural resources.

Education has spread in rural areas and more educated manpower is now being available in the country side. Educated man seems out of place in rural surroundings. However, if properly motivated and reoriented, he could be an asset in the rural areas. If the farmers' sons are educated in agriculture or veterinary services, they could be direct agents of change. Development plans may make use of the services of such educated men and after giving them necessary training put them into use in implementing the programmes of rural development. Unfortunately, there is less of advanced agriculture education and more of general higher education which is being availed of by the farmers' sons. But even here, the farmers' sons, though qualified with general degrees may work to build up rural institutions like agricultural workshops, cooperative societies, tractor and distribution centres, etc., rather than jostle for clerical posts in the cities. We must make full use of the knowledge of the available talents of the rural people. It has to be borne in mind that the industrial revolution was ushered in Great Britain not through the efforts of modern scientists but through the innovations made by mechanics and artisans.

Productive effort

The entire development process may be looked upon as the end product of the efforts of individuals and institutions. A network of institutions are needed to initiate support for the development process. In the process of local planning, the institutions which are to play a prominent role are the following :

(a) At the village level, the village panchayat, primary cooperative society or the newly set up farmers' service society and auxiliary institutions like the youth and women's clubs, etc.

(b) At the Tehsil|block level, the tehsil|block development board, land development bank, branches of commercial banks, taluka agricultural produce marketing society, the Agricultural Produce Marketing Society (APMS), etc.

(c) At the district level, the zila parishad, or district development council, district central cooperative bank, commercial banks, etc.

Each of these institutions has a definite role to play and each must prepare a development plan for its own area of activity. Thus, the village panchayat, the tehsil development board and the zila parishad or the district development council have to produce general development plan while the cooperative and the commercial banks have to prepare credit plans. The marketing society and the agricultural producing marketing societies have to produce marketing plans. Finally, youth and women's institutions and similar other institutions may prepare their plans limited to their purposes.

In addition, for the city and town areas, the corporations or the municipal councils have to produce plans for their areas and where there is the linkage effect, an integrated town and country plan must also be prepared.

Credit plans

The role of credit plans as complementary to the economic plan and the planning to be undertaken by the cooperative and banking institutions has been mentioned earlier. The cooperative credit institutions sometimes look upon themselves as mere lending institutions, channelising the credit reimbursed by the higher credit institutions reaching right up to the level of the RBI and the ARC. The commercial banks work only in a limited area around their centre. As a result, no attempt is made to assess the income generation in the local economy and the savings of the local community. The banking institutions must make an attempt to mop up savings that could be generated in the rural economy which in turn could be re-cycled through investment for the development of the economy. Such a complete circulation process consisting of income generation,

savings, investment and further generation of income has not yet been attempted for the rural economy, by the banking institutions, though it is a vital part of an integrated horizontal plan.

Infrastructure facilities

Development of agriculture, industry, marketing, processing and financing of an area is not possible without the infrastructure of roads and electricity.

Road plan, consisting of the national and state-high ways, inter-village communication and village roads, must be prepared and implemented in a phased manner. In the absence of such an integrated planning, it is seen that roads are taken and left half-way with stacks of metal lying unused. Another example is that even large villages surrounding a marketing centre remain unconnected by proper communication. Irrigation development is not possible without ayacut roads. Transport is rightly considered to be the crucial factor in the development of the economy. The green revolution in Punjab is attributed not only to productive effort but also to the existence of a good network of rural communication.

Rural electrification is crucial for agriculture development, industrial development and improvement of the style of rural life. While some areas have been fully covered through rural electrification, many others are in much inferior position. Regional and local planning should bring out such regional disparities and correct them.

Growth centres

The concept of hierarchy of centres has been discussed earlier. The nodal points in the rural economy consist of city and town marketing centres which many a time coincide with the taluka headquarters but would also include other municipal towns and large villages in the area. A forward looking plan should be prepared for each of the centres so that they provide the focus of the development of the area around such centres.

Minimum needs of social consumption

All the items dealt with so far, have aimed at the development of resources of the local economy. As these resources develop, they would automatically facilitate availability of goods and services and would provide gainful employment. However, in addition to the individual consumption of goods and services, there are certain items which are of the nature of social consumption and which have to be provided through general development plans. These items of social consumption include drinking water facilities, schools and health centres. These have vastly expanded in recent years and it is time to cover the areas which have been left out in the past

Technological development

The scientists have realised that the research in science and technology should not be carried out merely on an all India basis but it is high time that the research is undertaken at the local level.

All these eight components must form necessary part of the local development plan. But these are complementary components. Each component no doubt must be developed as an item in its own right, but each must also be integrated with the other components. For example, development of natural and manpower resources should go together but the development of these resources would require infrastructure facilities and various other services and hence the plan for the development of natural resources and manpower resources must develop along with the plan for infrastructure facilities. In all aspects of integrated development, institutions like panchayat and cooperatives have to play a crucial role.

Such horizontal district plans cannot be formulated without certain degree of expertise in the technology of planning. It was felt that it would be difficult for a busy administrator, like the deputy commissioner|collector under continuous pressure of day-to-day work to find adequate time necessary for formulation of such a plan.

Attention was, therefore, given to the strengthening of the district machinery of planning by the appointment of the district planning officers and training them suitably in the techniques of district planning.

The person appointed as a district planner must combine in himself both academic and administrative talent. This is not easy to obtain.

Though the concepts of an integrated plan for local areas, as analysed, have not been unknown, we have yet to succeed in preparing an integrated development plan. We have to make continuous effort to get over the weaknesses in the planning mechanism, which have taken many forms. A lot of statistical data is generated but it is not always up-to-date, and even when it is available, it is not assimilated and linked up with design of development, because of the lack of capacity to use statistical data in an intelligent and meaningful manner for development planning. There are district statistical officers at the district and taluka level but they are engaged in the routine tasks of compilation of the data and sending it to their headquarters. They should be trained and motivated to use the data for local plan. The statistician must make himself useful to the administrator and the planner. But the planner and the administrator must have also the capacity to use the data. Apart from the officials like the deputy commissioner, the district planning officer and the district statistical officer, the other participants in the district planning machinery, viz., panchayats and cooperative institutions, have never taken interest in a rigorous process of local planning. Indeed, this indifference to local planning has to be found in the local community itself. The district headquarters have a number of educational institutions and competent people, students and teachers, natural scien-

(Contd. on page 33)

Seventh plan objectives approved

Yojana Correspondent

THE MAXIMUM POSSIBLE GENERATION of productive employment, attainment of self sufficiency in food at higher levels of consumption and reduction in infrastructural bottleneck and shortages and improved capacity utilisation and productivity throughout the economy are some of the objectives of the approach to the Seventh Plan, which was approved by the National Development Council at its meeting on 12th and 13th July, 1984.

The other objectives include the alleviation of poverty and a reduction in inter-class and inter-regional and rural urban disparities; a higher level of social consumption, particularly in education, health, nutrition, sanitation and housing; an enhancement in the degree of self-reliance through export promotion and import substitution; conservation of production and energy resources, ecological and environmental conservation; decentralisation of planning with full public participation in development, and integration of science and technology into the main stream of development planning.

According to the approach paper, objectives will be sought to be achieved through a result-oriented approach in which a number of well-defined major mission will be identified and implemented through coordinated inter-agency projects. The Seventh Plan will seek to launch the country on the path of further development, geared to equity, removal of deprivation and a tangible rise in levels of social welfare and social consumption, especially of the disadvantaged sections.

The strategy will be built on the basis of an emphasis on *food, work* and *productivity* as directed by the Prime Minister, Mrs. Indira Gandhi, while presiding over the NDC meeting.

Growth rate, plan size and resources

The projected growth rate of the Senventh Plan will be a little over 5 per cent. This will help contain inflationary pressures and lead to import substitution in sectors like crude oil, food grains and edible oils besides generating employment and income for the poor, especially in the less developed regions.

The plan will be based on the assumption of a 26 per cent savings rate which has already been achieved.

Aggregate investment over the five years will be of the order of Rs. 320,000 crores including public investment of about Rs. 150,000 crores at 1984-85 prices. The public sector outlay in the plan period will be of the order of Rs. 180,000 crores.

The required resources will have to be mobilised in a manner which minimises dependence on external sources or on deficit financing which has a high inflationary potential. The hallmark of this objective will be based on generation of internal resources.

The strategy outlined in the approach to the Seventh Plan is intended to result in lowering of the capital-output ratio in view of likely constraint of resources in real terms.

Balance of payments

The plan will take into account the prospect of considerably diminished inflow of concessional financial assistance from abroad, sizeable debt service obligation, and global environment where interest rates will normally be high with only limited possibilities of any sharp acceleration in the volume of export growth. The strategy, therefore, to be evolved will aim at depending largely on faster growth in exports, and on import substitution

Greater priority will be given to attaining self-sufficiency and self-reliance in areas such as oilseeds, petroleum, petroleum products and a whole range of items which account for large imports or where the content of skilled labour is high.

A growth rate of population of 1.8 per cent per annum is assumed for the plan period. The estimated population in the terminal year of the Plan is pegged at 803 million.

Guiding principles

The guiding principles of the Seventh Plan will continue to be growth, equity and social justice, self-reliance, improved efficiency and productivity. Within this framework, the movement towards social justice will be faster with a focus on employment and poverty alleviation. Hence the emphasis on policies and programmes intended to accelerate the growth in foodgrains production, increase employment opportunities and raise productivity.

The provision of productive employment is designed to help people stand on their own feet and work with self-confidence and self-respect, as a first essential input to ensure their participation in developmental tasks.

The emphasis on rural employment through National Rural Employment Programme (NREP). Rural Landless Employment Guarantee Programme (RLEGP) and Integrated Rural Development Programme (IRDP) will continue with better planning, closer monitoring and higher organisation for effective implementation. Backward and forward linkages will be fully provided so that beneficiaries are able to make full use of the assistance. In addition, the growth in employment will be non-inflationary only if agricultural production, particularly food production, is augmented significantly.

The NDC, besides approving unanimously the draft approach paper, agreed that the Planning Commission should now proceed to prepare the draft Seventh Five Year Plan 1985—90 on the basis of the objectives, the programme thrusts and the targets of growth outlined.

Groups of experts will now go into some specific issues that were posed before the National Development Council and make their recommendations on them having regard to the following :

(1) Whether the Seventh Plan should provide in its formal structure for the effects of inflation, both on resources and on costs of investments ;

(2) Whether the Seventh Plan should provide for expenditure on maintenance of non-revenue earning assets as part of Plan outlays in order that such assets are properly maintained ;

(3) Whether the concept of Special Area Development Programmes, which now cover hill areas and the tribal areas should be extended to other areas like desert areas, ravinous areas, coastal areas affected by salinity, water-logged and flood-prone areas and areas which are of special interest and concern from the environmental angle ;

(4) The role and place of Centrally-sponsored schemes in the achievement of the objectives of the Seventh Plan ; and

(5) How flexibility can be built into Planning and the administration of anti-poverty programmes, where the States have a major role to play in their implementation, consistent with the basic objectives of such Plans being achieved. □

(*Contd. from page* 31)

tists, social scientists and social workers, but unfortunately very few have taken interest in the development process and planning of their area. Thus, the administrative machinery, the local govenrment institutions and the leaders of the local society have not been as keen about the local horizontal planning or spatial planning as they ought to have been. They have to come together on the planning forum and combine their intellectual power and thinking faculties with their intimate knowledge of local area and community to formulate scientific development plans. □□

(Next issue : The project planning)

India to tap castor oil export potential

THE UNION MINISTRY OF COMMERCE has set up a working group to formulate a long-term strategy for the export of castor oil and to make an indepth study of all aspects concerning the development of castor oil products. It is expected to recommend an institutional framework which could be entrusted with the development of castor oil exports and, stable and remunerative prices for growers.

The group will estimate domestic and export demand, sector-wise and the viable of level of prices for each sector. This will be with particular reference to the implications of technological and other changes in the pattern of demand in major foreign markets for longer-growth of castor oil exports from India.

In 1983-84, India boosted up castor oil exports to an all time high of 79,000 tonnes valued at Rs. 105 crores. The country hopes to increase these exports to a value of Rs. 125 crorse in the current year. Most of the exports have been to the USSR, the West European countries and the USA. Castor seed are grown largely in Gujarat and Andhra Pradesh. □

BOOKS

A great parliamentarian

Builders of Modern India : Vithalbhai Patel By H. M. Patel, Publications Division, New Delhi, Pages 179. Rs. 15.

GUJARAT has given many illustrious sons to the nations among whom, Mahatma Gandhi is the foremost, and the Patel brothers—Vithalbhai and Vallabhbhai—are next only to him. Though the Sardar was more popular, the task of his elder brohter in building modern India was no less important. Born in a peasant family, he rose from the position of a pleader to that of an eminent barrister-in-law. As a lawyer he was not confined to money-making but fought for public causes. After the loss of his wife at a young age, he gave up his lucrative practice and his family and private life and devoted himself to the service of the country literally till his last breath. He was elected to the Bombay Provincial legislature in 1912 and to the Central legislature in 1918; in between his terms in the Central body he also did exemplary service to Bombay as its Corporation President. As the first elected Indian Speaker of the Imperial Legislative Council he won many awards and shone like a lodestar among the intellectual giants who occupied the opposition and Treasury benches. His mastery of the legislative rules and various subject matters, debating skill, sharedness in putting questions and moving resolutions and non-official bills and boldness in protecting the powers and dignity of the House, while at the same time, maintaining decorum in words and behaviour, established him as a model legislater for all time to come. He even made the Viceroy and Commander-in-chief, bowed down to the legislature and waged the freedom struggle from inside. He was also a pioneering crusader for social reforms like intercaste marriage and for strengthening the local bodies.

Vithalbhai was a loyal congress soldier and a follower of Mahatma Gandhi. He held responsible positions in the Congress, organised the Bardoli Satyagraha, resigned his high office in the legislature on Congress orders, courted imprisonment which ruined his health and carried on effective propaganda in spite of serious illness, in foreign countries in the cause of India's freedom. In fact, he collapsed and died in Switzerland during his last tour.

Like some other leaders of his time, Vithalbhai had graduated from Constitutionlism to mass action and, later to militant struggle. He was not an yesman of Gandhiji and cautioned the latter on the eve of the Round Table Conference of the British intention to exploit the differences among the Indian representatives and advised him to forge unity and to avoid all other issues except the basic question of independence. In his analytical statement on the failure of the RTC he pointed out, "In spite of what Mahatmaji says, I venture to think that the Gandhi Irwin Pact was a blunder," and urged the Congress to immediately solve the communal problem. Towards the end of his life he issued a joint statement with Subhash Bose, calling for Gandhiji's resignation from the leadership and for waging a militant struggle on all fronts. This statement adversely affected his public image, and, unlike Netaji, he did not live longer to regain his popularity. It is for historians to assess, from the hindsight of later development like communal fratricide and partition, the views of Vithalbhai Patel.

During his brief public life of 21 years, Vithalbhai did so much service that the grateful nation will always cherish his memory. His great performance as a parliamentarian, in particular, continuous to be a beacon light to the legislators of free India even today and the MP's quarters are aptly named as Vithalbhai House.

The author, who is a vetern administrator and a political leader, has written the biography in such an objective manner that only his pen, and not his personality, is seen in the book. He also deserves praise for his painsaking efforts in the detailed presentation of Vithalbhai's legislative battles. Surely, this is one of the best books in the Builders' series.

P. SRINIVASAN

Statistics for planning development

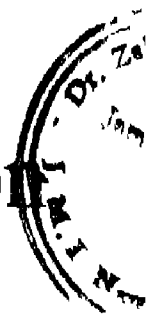
Data Collection in Developing Countries by D. J. Casley and D.A. Lury, paperback Oxford University Press, Special Indian Price Rs. 45.

IN DEVELOPING countries data requirements for planning, execution of various programmes and their evaluation are enormous. The procedure for data collection, however, is a complex phenomenon Although theoretical development in this filed has been very rapid, the practical difficulties faced in the actual data collection have been on the increase with the increasing number of activities undertaken and their interaction. The felt need, therefore, was to develop concise but clear guildelines for practical users, both in the field of study design and data collection.

The preset work reviews briefly the sampling aspects and clearly differentiates as between the concepts, census, sample survey and case study. The discussion on survey design and the questionaire are exhaustive and illuminating and replete with a large number of examples from several developing countries. It also deals with the composition of study team, development of appropriate questionaire, data preparation and processing and the output format The chapter on monitoring and evaluation ably defines the above terms and explains very clearly the various issues associated with them. The practical implications of various assumptions are bought out in a very neat manner, intelligible to the technical experts as well as to the generalist administrators of various programmes.

The book is good in its content, style and analytical rigour. It is a valuable contribution from the authors having practical experience in developing countries for those who are interested in the development of the third world.

D. TRIPATHY

Seed banks for oilseeds production

THE NATIONAL OILSEEDS and Vegetable Oils Development Board has decided to have regional seed banks to ensure adequate supply of quality seeds to the farmers. It will provide assistance to the seed producing agencies to enable them produce additional quantity of quality seeds of groundnut, soyabean and rapeseed-mustard which are at present in short supply.

To ensure easy and timely availability of inputs and credit besides proper marketing facility, the National Board wants that oilseeds growers' cooperatives should be organised at the grass-root level with an apex body at the State level to provide requisite input supply service and market support.

The Board has also decided to have a National Training and Extension Institute for Oilseeds to provide a linkage between research, extension and farmer. A laboratory will be set up for testing oilseeds, oils and oilcakes.

The Board will prepare area specific projects in consultation with the respective State Governments for increasing the production and productivity of oilseeds. The Board is of the view that in addition to soyabean and rapeseed mustard, special attention should be paid to the cultivation of mustard, safflower and red oil palm.

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India's first industrial robot

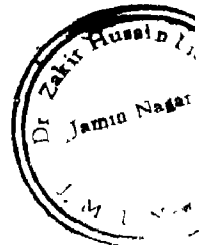
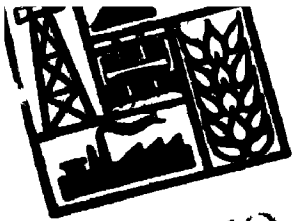
AN INDIAN DESIGNED ROBOT has started working on the production line of the Bharat Electronics Limited (BEL), a public sector undertaking.

This is the first Indian robot to be engaged in industrial production. It has been set up in the BEL's second TV picture tube plant in Bangalore.

The plant itself is semi-automated. It has been conceived, designed and set up indigenously.

With the commissioning of this plant, BEL has attained the installed capacity to produce 3,00,000 picture tubes a year. One lakh tubes will be made in the semi-automated new plant.

The robot is a "pick and place" type, with three axis movements. It is pneumatically operated. Controlled by a micro-processor, it collects screen coated TV bulbs from continuously rotating screen coating equipment and unloads them on a twelve head drying machine. It is capable of correcting any cumulative errores of the coating equipments. A display board on the Control Panel indicates the exact area where the fault has occurred, thus facilitating instant correction.

The robot controls the release of the coated bulbs, and with its lower arms centres the neck of the TV bulb and puts it on the drying equipment. The Central Control unit of the robot has been designed in such a way that more functions can be assigned to it.

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Education for the weak

NEXT ISSUE

Rising population & environmental degradation

Drug output goes up

The production of drugs in the country has recorded substantial increase.

During 1983-84, the production of bulk drugs is estimated at Rs. 345 crores as against Rs. 325 crores in the previous year. In 1983-84, formulations worth nearly Rs. 1660 crores were produced as against Rs. 1600 crores in 1982-83. The production figures are based on constant 1979-80 prices.

The value of production of bulk drugs increased by nearly 52 per cent from 1979-80 (base year of the current Plan) to 1983-84 and the formulations went up by 44 per cent.

The production of drugs and other matters concerning drug industry are constantly reviewed in the Ministry of Chemicals & Fertilizer.

Production of certain essential drugs like Mathyldopa (for blood pressure), Aminophylline (for asthma), Sodium Valproate (for epilepsy), Cisplatin (for cancer) and Vitamin B-6 have been undertaken in the country.

The country has acquired self-sufficiency in a number of essential drugs like sulphamethaxazole, Trimethoprim, Metranidazole, and Steptomycin. Most of the drugs covering a wide range of anti-biotics and Vitamins are now produced within the country. Efforts are being made to step up the production of Ampicillin and Chloroquin Phosphate as their production is not sufficient to meet the demand.

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Our contributors :

S. K. Ray, a noted author on economic subjects, New Delhi; **M. M. Ansari**, Project Fellow, National Institute of Economic Planning and Administration, New Delhi; **Kusum K. Premi**, Fellow and Head, Education Policy Unit, National Institute of Educational Planning and Administration, New Delhi; **Vasant Sathe**, Union Minister for Chemicals and Fertilizers, New Delhi; **G.A. Kulkarni** and **Shambhu Dayal**, Economic Analysis Division, N.S.S.O., Ministry of Planning, New Delhi; **Dr. N. K. Sinha**, former Deputy Adviser, Planning Commission, New Delhi; **O. P. Mahajan**, Dean, Faculty of Arts, Garhwal University, Srinagar (U.P.); **P. R. Dubhashi**, Director, Indian Institute of Public Administration, New Delhi; and **Gyanendra Sharma** and **K. C. Tyagi**, Research Scholars, National Dairy Research Institute, Karnal, Haryana.

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Pioneers of Indian economic thinking

S. K. Ray

The evolution of modern Indian economic thinking owes its genesis to the economic content of the burgeoning movement of political emancipation in the Sub-continent during the nineteenth and early twentieth centuries. M.G. Ranade and his disciple R.C. Dutt were among the path-breakers in Indian economic philosophy, says the author.

THE INDIAN ECONOMY PROVIDES a panorama. In the entire complex of the developing countries of the world, the growth of the Indian economy is crucial to the development of the emerging South.

The evolution of Indian economic thinking, as a science formulated on the general principles of economics, owes its genesis to the economic content of the burgeoning movement of political emancipation in the Indian Sub-continent during the nineteenth and early twentieth centuries.

While this is largely true, it will be naive to consider it only as a focus of the struggle for freedom. The emergence of Indian economic thoughts did have established anchorages deep down in economic precepts and practices.

Relevance of economic laws

M. G. Ranade, the eminent Indian thinker and a path-breaker in Indian economic philosophy, felt that the laws of economics as interpreted by the Western economists were not comprehensively applicable in the Indian situation.

In view of the advancement in economic theory since Ranade's time, and also the fact that the applied branches of economics do now cover the economic problems and strategies relevant to underdeveloped and developing countries as much as the developed, Ranade's opinion which has had a validity in his own time is no more applicable in today's context, at least in regard to the use of economic theory in the interpretation of India's economic problems.

Economics as a science no longer claims to have absolute canons of applicability under all circumstances. Economics, it has clearly been emphasised, no more makes a claim that the general economic principles can themselves always show what the right thing to do is in any given set of circumstances. In addition to this, it is also appreciated that an economy is dependent on diverse and heterogenous factors and circumstances. Therefore it has since been appreciated by economists that it is impossible to provide conclusive formal proof of the absolute correctness of any particular decision.

What Keynes himself said in this context is also very relevant : Economic theory is now thought of as an equipment of general application for putting significant questions to particular bodies of facts, and a technique of thinking which helps it possessor to draw correct conclusions

A specialised study of Indian economics can not however be divorced from the universal laws of economics. The latter are applicable in Indian conditions; only one ought to take care of choosing with care and precision the variables in economic phenomena that would be applicable in the Indian condition.

A broad profile

I shall first give a broad profile of the concepts on Indian economic development by the pioneers of Indian economic thinking. They represented what I may call the Indian school of economic emancipation

The writings in the nineteenth century India, in the framework of the political movement of the time, or ancillary to it, had a clearly discernible economic content, in the sense that the motivation was to serve the cause of the economic emancipation ot a people in bondage.

The British government in the nineteenth century had brought to bear on their meandering economic policies an application of the unduly doctrinaire tenets of political economy, as formulated by them in the popular English books of classical economics.

The purely exiomatic and hypothetical character of the classical theories of political economy was conveniently overlooked. The presumptions as to the environments were also forgotten in deliberate econo-political maneouvres.

Friedrich List in Germany came down heavily on such suit-the-purpose application of economic principles. It was particularly against the cosmopolitan principle in the economic system that he protested, and against the absolute doctrine of free trade, which was in harmony with that principle.

He gave prominence to the national idea in economic philosophy, and insisted on the special requirements of each country according to its circumstances and specially to the degree of its development.

List was not alone in pointing out the fallacy of presuming that classical economic laws were universal in their application. Apart from many important continental economic theorists, there were a few even in imperialistic Great Britain, who were emphatically protesting against such a dogmatic and colonial application of the principles of economic law.

Criticism of the economic policies of the government during the greater part of the nineteenth century in India was vehement. The texture of such criticism did not, however, clearly bring out the economic fallacies in the enunciation and consideration of the principles of political economy. It was here that Ranade, followed by Romesh Chandra Dutt, stepped in.

Distinct postures

There are two distinct postures in the economic philosophy of Ranade, Dutt and the entire school of economic emancipation that they along with a few others represented. It will be worth the while to chronicle in clearcut terms a profile of this philosophy.

Because free trade was useful for England, the Government emphasised it must be good for India as well. Because the principles of *laissez faire* suited the conditions of the British economy, the Government imposed it on the colonial Indian economy.

The Government also had the gumption to postulate that it would be equally beneficial to India, intentionally glossing over the non-existence or only marginal existence of an infrastructure of private enterprise, already being annihilated systematically by the British as a integral part of their establishment of political suzerainty.

Ranade went about with remarkable *aplomb* to expose the incorrectness of these principles and the polices that the government formulated and practised under them. The challange thrown in by Ranade was further taken up by his disciple R. C. Dutt, who took the matter to its logical conclusions, and proceeded to formulate an indictment on the state policies on economic exploitation in India. It was as the ultimate culmination of the Ranade-Dutt economic philosophy that Romesh Chandra finally issued his historic Open Letter.

Two main thrusts

Ranade and Dutt both took upon themselves the national responsibility of proving that :

> Many of the assumptions at the back of all dogmatic treatment of the subject of political economy were inapplicable to India. Public policy, if it was really to further the economic development of the country, could not afford to ignore the peculiarities of the Indian context.

Hitting hard at the eccentric and colonial policies of the British Government leading to the systematic liquidation of the Indian industrial and economic aspirations to convert the sub-continent into an easy and open market for the British manufacturers, Ranade went eloquent in his writings and oratories.

R. C. Dutt developed the concept of economic exploitation further in his pioneering works of authority on Indian economic thoughts.

Incidentally, ever since the perspicacity of Ranade and Dutt, there have been sweeping changes in both political economy and Indian economic thinking.

As was said, political economy has, along with the Keynesian emergence, emphasised the hypothetical nature of some of its conclusions and has become chary of claiming universal validity for them.

Keynes has thus proclaimed in this context : The theory of economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus to the mind, a technique of thinking which helps its possessor to draw correct conclusions.

Economics of emancipation

To revert to the points at issue as relevant to the economic principles of emancipation in the Indian situation as enunciated by the pioneers of Indian economic thinking, I may summarise them in the subsequent paragraphs.

India in the nineteenth century was a great manufacturing as well as a large agricultural country, and the Indian handlooms supplied cloth and textiles to the markets of Asia and Europe.

The East India Company and the British Government, following the imperialistic commercial policies of a hundred years ago discouraged and even wrecked Indian manufacturers and even cottage and small

scale industries in the early years of the British rule in order to encourage the rising manufactures of England.

Their fixed policy pursued during the last decade of the eighteenth century and the first decade of the nineteenth was to make India subservient to the industries of Great Britain. It was also to make the Indian people grow raw produce only in order to supply material for the looms and manufactories of Great Britain. This policy was pursued with unwavering resolution and fatal success.

As the assumptions, (Ranade was referring to assumptions like enlightened individualism, completely free competition, mobility of labour and capital etc.), did not hold good of even the most advanced countries, it was obvious that, in economies such as the Indian, they were chiefly conspicuous by their absence of validity. The imprint of Friedrich List's precepts is abundantly clear and evident in this exposition.

Assumptory concepts

Dutt further enlightened how the adoption of the assumptory concepts of classical economics in the Indian situation of his time was incorrect and counter-productive.

* There was neither the desire nor the aptitude for free and unlimited competition except within certain predetermined groups or grooves.
* Neither capital nor labour was mobile nor entrepreneurship intelligent enough to shift from place to place.
* These were fixed and not elastic or responsive to change of circumstances.
* While population ' followed its own law, being cut down by disease and famine, production was static and stagnant. The bumper harvest of one year was needed to provide against the uncertainties of alternate bad seasons. Two consecutive bad crops often brought about a famine.

In a society so constituted, Dutt had seriously argued the tendencies assumed as axiomatic were not only not imperative, but were actually deflected from their proper direction.

The economic concepts of Ranade and Dutt do have a look of comparative exaggeration. If one goes through their stimulating works, one would naturally realise that there was really a played-up over-emphasis on the inapplicability of classical economic laws, and that this over-emphasis was rather deliberate.

The classical economic principles very much suited the pursuits of the British Government, from Dalhousie to Curzon, in the background of what came to be known as the notorious concept of imperial preference in India.

Dutt's theory, developed further on Ranade's econo-political philosophy, postulated that it was mainly the responsibility of the Government to sponsor and accelerate agronomic and industrial development in the country. This concept was in fact diametrically opposite to what the Government practised. In an effort to emphasise their points, the political overtones in Dutt's philosophy, as also earlier in the oratory and writings of Ranade, are understandable.

In this context, it will be appropriate to chronicle and discuss some of the distorted and tendentious economic concepts pursued by the British Government in India.

To a student of Indian economic development, the concept of imperial preference fostered by the British rulers looms large as an inglorious concept where licences, priorities, economic assistance, shipping and transport, in short, all economic vehicles, were geared to this responsibility of the Government.

The country was thus being used for export of raw material to aid industrialisation of Britain, and also as a market for dumping finished products of the British industry.

As a result, while industrialisation could not take any meaningful step, agriculture was falling to pieces.

Even the tenancy laws and the settlement systems degenerated to produce a multitude of uneconomic holdings controlled by pockets of vested taluqdari interests. There was no effort towards modernisation of agriculture and betterment of cottage and small-scale industries. Medium and large scale industries were by and large discouraged except to serve British interests.

Based on Ranade's concept of the State's responsibility for developmental investment, Dutt later developed the theory of public surplus in India. He was consistently and repeatedly urging the government to set the pace for industrialisation in big cities and mineral belts, modernise the tenancy and settlement systems and rationalise the agricultural economy.

Open letter to Curzon

Dutt's Open Letter to Lord Curzon in my evolution served as a two-pronged charter of economic critique for appraisal of the policies of economic development pursued by the Government. It was a straight-forward indictment on the imperialistic economic designs of the Government and policies overwhelmingly oriented to such an objective. It was also an incisive economic analysis of the British policies in India in disregard of the economic aspirations and well-being of the people. Finally it was a manifesto of economic policies which he continually urged the Government to pursue.

Another remarkable contribution of Ranade and Dutt to the debate on public issues of economic significance concerned the arrangement under which 'home charges' and 'imperial levies' were being repatriated to Britain 'in lieu of the so-called security and governance provided by the British in India'.

Dutt would not allow to go unchallenged such deciet in the formulation of public policy for economic development. "The advantages to India of the British

connection, such as they are, or vice versa, were not capable of being precisely measured". They were. therefore out of place in a discussion occupied with concrete and calculable itmes, just as much as the incalculable though non-the-less real advantages which England derived from India, Dutt had urged.

His criticism was so vehement that it made Lord Curzon to sit up and join issues through a half-hearted exposition of his own. Curzon admitted that his data were not incontrovertible.

He also admitted that the picture of economic position revealed by his calculations was not in itself very brilliant or gratifying. But at the same time, Curzon pleaded, they showed that the movement of the economy was in a forward and not backward direction.

The first two Indian thinkers to see the necessity of emphasising many important causes of Indian poverty and economic stagnation were Ranade and Dutt, who were path-breakers in Indian economic thinking. Later writers on Indian economics did not always perhaps show their insight and erudition and their exquisite sense of proportion.

Streams of thought

A few specific streams of thought can be particularly spotlighted here, as these proved to be of considerable significance to economic development of not only contemporary India, but also in the twentieth century and after independence.

Such thoughts related principally to the prevalent adversities of the economic situation.

First was Ranade's views on the tenancy laws, further developed by Dutt. The development of sub-infeudation, owing to the margin between the fixed land revenue and the economic rent of land, and the growth of a long chain of middlemen, had virtually snapped the connection between the zamindars and the ryots, and defeated the intention of Cornwallis to establish a landlord and tenant system in Bengal on the British model, exclaimed Dutt.

The land was nobody's concern, he said, and the responsibility for agricultural welfare could not be fixed at any particular link in the chain between the zamindar and the actual cultivator.

The evil culminated, according to Dutt, in fragmentation of land holdings.

He therefore vigorously protested against the lukewarm tenancy system pursued by the Government, and then formulated a bold scheme of ryotwari bandobast in his works, many ideas from which grudgingly borrowed in later years by the Government.

Dutt had a visionary's outlook also on foreign capital. He regarded the policy of raising capital abroad to finance national economic development as sound and well-conceived. In the formulation of his concept on 'borrowing abroad for development' Dutt appears to have been greatly influenced by Ranade.

Dutt's concept can be precisely summarised as follows : If no foreign control enters into the system, the main matters for consideration are :

* Can a new asset be created by means of an external loan which will yield a net annual return, directly or indirectly, to the people of India, exceeding the stipulated rate of interest ?

* Can the money be borrowed abroad on the whole to greater advantage than in India ?

......If both of these questions were answered in the affirmative, obviously the use of external capital was advantageous, Dutt said.

Even though in Dutt's own period these ideas were not infrequently criticised as an Open Invitation (a pun with his Open Letter) to foreign economic subservience, time has established the boldness as also the fundamental soundness of the farsighted ideas of Dutt and his mentor, Ranade.

All too often industry is wanted primarily for nationalistic reasons : to show that a country is modern, and that it need not depend on others for the goods it wants to be produced indigenously. Such thinking frequently leads to a number of unsound prestige projects in many developing countries.

This frequently tends to erect emotional and psychological barriers to the entry of foreign capital and know-how, even when it may be obvious, on purely economic grounds, that borrowed capital and technology have a necessary role to play, particularly in the first few phases of development.

These two factors had played an important but controversial role in Indian economic thought and in the formulation of economic policies in post-independence India. It was in this context that the historic Nehru Resolution on foreign investment was announced in the parliament of independent India.

And India has already lived through with enough participation of foreign capital and expertise in her industrial development during the first six Five Year Plan periods, so as to see the so-called 'nineteenth century concepts' of Ranade and Dutt fully vindicated even in the second half of the twentieth century and post-independence India.

Sound concepts

The soundness of the conceptual formulations of Ranade and R. C. Dutt should be judged against a few resultant considerations.

First, they did provide a very effective economic forum to the developing political movement of the country. Their cudgels were later taken up in the political manifestos of the Indian National Congress.

Secondly, even in those early days of political movement, their exposition of economic philosophy compelled the Government to come down to brass-tacks in matters of development and principles of government.

(Contd. on page 21)

Resource mobilisation through taxation

M. M. Ansari

A development oriented tax system requires a continuous modification in the existing tax structure so as to make it increasingly responsive to the changes in economic growth. The taxation policy is used, in almost every country, as one of the essential instruments for resource allocation, income redistribution and economic stabilisation, says the author.

AS THE PRINCIPAL OBJECTIVE of taxation is to augment adequate revenues for financing of capital formation and other public utility services, the increase in tax revenues in India, during the Plan periods, has recorded quite a significant growth. The ratio of tax revenue to the national income reached 18.5 per cent in 1980-81 as against 13.8 per cent, 10.2 per cent and 7.4 per cent in 1970-71, 1960-61, and 1950-51 respectively.

The contribution of tax revenue to the aggregate receipts (on account of both revenue and capital) rose from 45.5 per cent in 1960-61 to 56.2 per cent in 1970-71. In 1980-81, it reached 58.3 per cent. As a result of this growth, the share of tax revenue in the total revenue receipts has ranged between 77 per cent to 80 per cent during the last two decades. It is thus obvious that the revenues from tax sources have been of crucial importance for financing the development programmes of the country.

A need for review

While the above results present an impressive picture of the revenue fetching potentiality of the Indian tax system and structure, the stationary state of tax ratio at around 18 to 19 per cent, especially after 1975-76 to-date, clearly suggest that the existing tax structure and its administration should be thoroughly examined so as to identify the reasons that have been affecting the revenue yielding capacity of the tax system.

This is all the more important, because (a) the country has been experiencing serious resource constraints in the recent times, more than in the past, (b) the prospect for improving revenue collection from non-tax sources is limited as the past experience shows; and (c) as the country's debt-service ratio is already rising, due largely to huge loans obtained recently from the IMF,[1] any further increase in dependence on foreign resources might lead to a serious problem of financing debt services. An increasing trend in debt-service ratio would adversely affect the level of domestic investments, thereby impeding the overall growth of the economy.

Moreover, the present indications of a declining aid package and a somewhat stagnant nature of remittances from abroad, clearly suggest that the country has to rely more on domestic revenues especially from tax sources which constitute three-fourths of the total revenue receipt. In view of these considerations, the objective of this article is (i) to identify the potential tax bases which have been used less than the average extent; and (ii) to examine whether the prospects for improving the yield from certain tax sources exist.

Growth of tax revenue

An examination of the trend of growth of tax and non-tax revenues revealed that over a period of three decades (i.e. 1950-51 to 1980-81), the overall tax revenue has increased at the annual average rate of 12.0 per cent. The break-up of the growth rates over the different decades showed that the compound rate of increase in revenue was 15.0 per cent per annum

during 1970-80, as against 12.7 per cent and 8.5 per cent during 1960-70 and 1950-51, respectively. Table 1 exhibits the relevant growth rates. The increase in capital receipt, over the three decades, has been even more faster and higher (i.e. at the rate of 15.1 per cent per annum) compared with the rate of tax revenue (12 per cent).

Thus, as judged from the growth of the Gross National Product (at current prices) which grew at the rates of 4.3 per cent, 10.0 per cent and 10.1 per cent, respectively, during the three decades subsequent from 1950-51, the increase in revenues display quite an impressive record of resource mobilisation efforts. A further decomposition of the growth rates of revenues by its major sources, such as, tax and non-tax, indicated that the tax revenue has increased at a marginally higher rate than the non-tax revenues. Moreover, within the tax sources, it must be noted, the rate of growth of indirect tax revenues has been much above the rate for direct tax revenues, through out the previous decades. A further disaggregation showed that the overall revenues of the states have risen at higher rates than the rates for the central revenues.

significant characteristics of tax performance. Firstly, the growth rates indicate nothing about the relative weights or the extent of contribution of an individual tax in the aggregate tax revenues. Secondly, these results neither give any idea about the nature of tax bases that have been exploited upto the desirable extent nor indicate the potential tax sources that can be utilized further for augmenting revenues without unduly burdening the tax payers. Since these aspects are imperative in tax analyses, we shall examine in the following paragraph the intensity of use of the different taxes and the relative contribution of each tax in the total revenue. The accepted technique of regression analysis has been employed for the purpose.

Utilisation of tax bases

The analysis of the results derived from the regression estimates of buoyancy and elasticity *coefficients for the period 1960-61 to 1980-81 indicated that the buoyancy coefficients for almost all the taxes, except Agricultural Income tax, emerged to be more than unity; thereby indicating more than proportionate increase in tax revenue with respect to the changes in incomes.

TABLE 1

Annual Average Growth Rates of the Centre and States' Revenues and Gross National Product

	1950-51 to 1960-61	1960-61 to 1970-71	1970-71 to 1980-81	1950-51 to 1980-81
A Tax Revenue	**8.0**	**13.4**	**15.3**	**12.2**
Centre	7.4	12.9	14.3	11.5
State	8.8	14.0	16.1	12.9
(i) *Direct Taxes*	**5.7**	**9.6**	**13.1**	**9.4**
Centre	4.7	9.6	15.6	9.9
State	7.1	9.5	9.6	8.7
(ii) *Indirect Taxes*	**9.1**	**14.7**	**15.8**	**13.2**
Centre	8.7	13.9	14.0	12.2
State	9.7	13.6	17.5	14.2
B Non-Tax Revenue	**9.2**	**11.4**	**13.8**	**11.5**
Centre	10.9	14.1	14.0	13.0
State	9.5	11.0	11.7	10.7
C. Total Revenue (A x B)	**8.5**	**12.7**	**15.0**	**12.0**
Centre	8.6	12.8	14.1	11.8
State	10.7	12.6	15.9	13.1
D Capital Receipt (Net)	**23.3**	**4.6**	**18.1**	**15.1**
Centre	28.8	3.0	19.7	16.7
State	14.2	6.8	16.9	12.6
E. Gross National Product (At current prices)	4.3	10.0	10.1	8.1

SOURCE:— Computed on basis of data in 'Indian Economic Statistics' Part II Public Finance, Ministry of Finance, Government of India, (Various Issues) and Economic Survey (1982-83)

While these results reveal that the tax revenue mobilisation efforts have been commendable as compared to rise in GNP, the growh rates hide some

The elasticity coefficients were however less than unity for all the Central taxes, whereas the same coefficients for most of the taxes under the jurisdiction of the state were above unity. In other words, the regression coefficients exhibited that the states' taxes were duly elastic with respect to income i.e. the increase in revenue associated with one per cent

* The concepts of elasticity and buoyancy may be defined as follows : While the elasticity of a tax measures the automatic response of revenue to the changes in incomes (i.e. revenue increase, excluding the effects of discretionary changes), the buoyancy of a tax measures the total response of tax revenue to changes in income (i.e. revenue increase, including the effects of discretionary changes).

Tanle 2

Comparison of Elasticity and Buoyancy, of the Centre and the States' Taxes and the Relative Weights of the Taxes

Tax	Buoyancy	Elasticity	Coefficient of discretion-ary measure (col.2-col.3)	Weight of the tax in the Gross revenue collection (Percentage)	
				in 1977-78	in 1980 81
1	2	3	4	5	6
Centre and States' Taxes (Combined)	1.24	0.89	0.35	100.0	100.0
A. Centre's Taxes					
(a) Centre's Taxes (All)	1.25	0.83	0.42	66.9	66.4
(i) Direct Tax	1.11	0.92	0.19	18.2	15.1
(ii) Indirect Tax	1.30	0.82	0.48	48.7	51.3
(b) Income Tax	1.18	0.89	0.29	7.2	7.6
(c) Corporation Tax	0.99	0.85	0.14	8.7	6.6
(d) Union Excise Duty	1.33	0.79	0.54	31.8	32.8
B. States' Taxes					
(a) States' Taxes (All)	1.24	0.97	0.27	33.1	33.6
(b) Agricultural Tax	0.43	0.19	0.24	0.7	0.6
(c) States Excise Duty	1.53	1.38	0.15	4.1	4.2
(d) Sales Tax	1.37	1.07	0.30	18.6	18.6
(e) Entertainment Tax	1.48	1.34	0.14	1.2	1.2
(f) Motor & Vehicle Tax	1.09	0.84	0.25	1.9	2.2
(g) Elasticity Duty	1.25	1.02	0.23	1.0	1.4
(h) Passenger and Goods Tax	1.54	1.30	0.24	1.5	2.1

*The elasticity and buoyancy coefficients were estimated for the period 1960-61 to 1980-81.

increase in income was estimated to be more than unity.

The automatic increase in Central taxes have been less than proportionate increase in national income, as the elasticity coefficients for all the Central taxes were less than one. It can, therefore, be deduced in general, that the tax system and the structure which is being administered by the states are somewhat more efficient, compared to that of the Central government. This conclusion conforms to our earlier observations, in Table 1, that the annual average growth rates of the states' tax revenues were generally higher than the Central revenues. This is despite the fact that the states have more fiscal constraints under the statutory provision than the Centre.

Further, as the buoyancy and elasticity coefficients for all the taxes of the country were 1.24 and 0.89 respectively the difference of 0.35 between these two coefficients indicated a moderate attempt to improve the performance of the overall tax system through the discretionary measures. Among the selected major taxes, a high discretionary change was indicated for the Union Excise Duty (0.54) under the jurisdiction of the Centre and the General Sales Tax (0.30) under the states (col. 3 Table 2). Incidently, these two tax sources exercise a relatively heavy weight of 32.8 per cent and 18.6 per cent, respectively, in the aggregate tax revenues.

A further segregation of discretionary efforts showed that the Central taxes had a high coefficient of discretionary change (0.42) as compared to the state taxes (0.27). This difference can however be ascribed largely to low elasticity (0.83) for the Central taxes compared to the state taxes (0.97). While the indirect taxes under the Centre emerged with a high coefficient of discretionary change (0.48) the same coefficient for the direct taxes was as low as 0.19. Further, income elasticity of direct taxes was also less than one (0.92). These evidences have a considerable bearing on policy formulation. We shall discusss this in the following section of this article.

Policy implication

As the coefficient of discretionary measure (0.48) for indirect taxes compared to the same coefficient for the direct taxes (0.19) was high these results suggest that a great deal of care must be exercised in making a choice between the relevant set of tax measures for resource mobilisation because indirect taxes might impose undue burden on the poor people owing mainly to a relatively high income elasticity to consume for them. It is primarily due to this reason that there is a convention among the tax experts that the indirect taxes, which are levied on the commodities, are generally regressive at the margin. The governments must be cautious therefore, in evolving rate structure of such taxes, lest the incidences are distributed inequitably, intentionally or unexpectedly, across the different income classes or the groups of consumer.

By the same token it can also be argued that less than unit income elasticity for the direct taxes to-

gether with a very low coefficient of discretionary measures would indicate that there have been no adequate attempt, for whatsoever reason in the past, to increase the yield from the direct taxes to the desirable level. This is evident from a lower rate of increase in direct tax revenues associated with the corresponding increase in income.

As the direct taxes are largely income linked and are collected from the class of people who are in a relatively high income bracket, the incidence of the tax may be expected to be equitous as the statutory rate structure are generally progressive. It cannot therefore be said that either economic efficiency or equity consideration might have suppressed the elasticity and buoyancy coefficients below unity. In view of the foregoing considerations, there is clearly a case for improving the compliance with the direct taxes on the grounds of both equity as well as economic coefficiency**. Because (i) the relative neglect of revenue collections from the income-linked taxes has a direct bearing on the alleviation of inter-personal income inequality, which has steadily aggravated during the Plan periods; (ii) an intensive utilization of the direct taxes would provide a handsome amount of money which is urgently needed by the Public Sector for financing the development programmes; and (iii) the menace of growing parallel economy and its undesirable effects could be contained within the manageable limit.

Another conclusion which emerge from the foregoing evidences is that while the Centre's heavy reliance on the discretionary measures undoubtedly fetches more revenues, such measures, which are frequently taken either in the form of revision in tax rates or extension of coverage, may cause many uncertainties in the minds of taxpayers about the future tax liability. As a result, the business environment as well as the investment decision are accordingly affected. It, therefore, suggests that the different aspects of the tax problems must be thoroughly studied before any change in the existing tax policy is effected$.

Limited scope

As already noted above, the tax ratio has already reached at the level of 18.5 to 19.0 per cent. Now considering the low level of per capita income of the country, the scope for mobilisation of resources through additional taxation might appear to be somewhat limited. However, the co-existence of unaccounted flow of black money in the Indian economy £ and less than desirable level of exploitation of certain revenue bases, as discussed above, suggest for improvements in the compliance with the tax through different measures, such as, streamlining of procedures, better tax administration including minimisation of corruption and prevention of evasions. The inadequacy of such measures is clearly indicated from less than unit elasticity of certain direct taxes, namely, Income tax, Corporation tax and Agricultural Income tax. All these taxes are categorised into the direct taxes and are linked with incomes. It is then not understandable why the governments should not collect revenues at least in the same proportion as the relevant tax base growths*. It may be mentioned in passing that there are considerable inflation induced losses from these taxes. We shall return to it later.

Though the income elasticity of Union Excise Duty was [illegible] than unity, the coefficient of discretionary change (0.54) indicated a quite significant effort for raising revenues from the excise duties. Further since the less than unit elasticity for the Union Excise duty is largely attributable to a heavy reliance on the specific nature of duties, rather than the collection of duties on *advalorem* basis, the revenue yield from this source could be raised provided that the share of *advalorem* based duties is increased from the presently estimated level of 45 per cent to a properly determined level that would not unduly burden the tax payers. This can obviously be done by bringing more commodities under the purview of *advalorem* basis of excise duties.

Inflationary conditions

Another dimension of the problem of tax revenue mobilisation may be described here. Of the various factors that affect the level of revenue collections, the persistence of inflationary conditions is impor-

**Even though the econometric results indicate for the improvements in the compliance with the direct taxes, namely, Income Tax, Corporation Tax, Wealth and Property Tax and Agricultural Income Tax, as it might be desirable on efficiency and equity grounds, such an improvement is however not likely to materialise to the appreciable extent. Because in a country where two third population is still illiterate, fifty per cent of the total population live below the poverty line and more importantly, where the economic and political power rests in the hands of a few lucky ones, it cannot be expected that the decision making body should take any such decision which would be against their own interest. It is for this reason, it may be pointed out, that in no other major federation like, United States, Canada, Germany and Australia such a steeper socio-economic inequality exist as in Indian federation. This is despite the fact that India claims to be a 'Socialistic Republic' whereas other federations do not make such claims.

$Because, while the discretionary tax measures are taken every year for augmenting more resources, there is hardly any evidence for saying that such measures are initiated on the basis of systematic studies on the impact of taxation on the trade and business or its incidence on various socio-economic groups.

£Some of the studies by the individual researchers indicate that the extent of black money in the Indian economy vary roughly between 15 to 20 per cent of Gross Domestic Product. For a review of such studies see S. Acharya, "Unaccounted Economy in India : A Critical Review of Some Recent Estimates" *Economic Political Weekly* Vol. XVIII No. 49, 1985.

*The analysis of buoyancy coefficients with respect to the different proxy tax bases indicate considerable scope for collection of revenues from direct taxes.

tant one as the rise in prices push the nominal income up; thereby increasing the tax liability. Moreover, the cost structure of the different commodities is also adversely affected. As a result, the real value of exemptions, standard deductions and other tax incentives get reduced. From the point of view of raising finance, and more importantly, with a view to sustaining a reasonable level of investment in the economy, it is desirable that the tax system ought to response, at least, proportionately with respect to the growth in real income and rise in prices

Though during the previous two decades the rate of change in prices has shown a great deal of fluctuation a discernible trend which has emerged is that the general price index has steadily been rising. During the period 1960-61 to 1970-71 and from 1970-71 to 1980-81 the index of prices has increased at the average rate of 6.5 per cent and 8 7 per cent per annum, respectively. This rise in prices have affected the revenue collections adversely especially from the direct taxes discussed in the preceding paragraph. The use of multiple regression analysis, which we examined elsewhere, indicated considerable inflation induced losses from the Income Tax, Corporation Tax and Agricultural Income Tax.

Agricultural Income Tax

The Agricultural Income Tax, under the jurisdiction of the states, was found in our analysis, to be less intensively used than warranted for as the coefficients of buoyancy and elasticity were estimated to be much less than unity i.e. 0.19, respectively. Moreover, the analysis of the relationship between the revenues from this source and the relevant proxy bases, namely, agricultural income and the level of agricultural production indicated a considerable scope for raising revenues from the Agricultural Income Tax. In other words, the rate of growth of revenue from this source was estimated to be much lower than the rate for the relevant bases such as agricultural income and agricultural production. As the revenue requirements of the states are duly high, this source ought to be adequately tapped.

While it is possible that big farmers, who are historically owners of large farms, might resent the proper level of imposition as well as collection of tax on agricultural income; and it might therefore have political repercussions in the short run, the states should be able to tackle the problem politically especially through the equitable distribution of the benefits of development.

As the larger beneficiaries of the economic services, financed through the proper level of taxation, would hopefully be those who live below the poverty line, the fear of political repercussion could be gainfully averted. This, however, requires a strong will not only to tax those who have the capacity to pay but also to ensure a reasonable degree of equity across the different socio-economic groups so as to create a just society.

Some suggestions

We may now recaptulate the foregoing discussion. We argued that the scope for additional taxation, in general, would be greatly limited in view of both a low level of country's per capita income and a reasonably high level of tax ratio of 18 to 19 per cent which has already been attained. However, the co-existence of huge flow of black money in the Indian economy and less than desirable level of utilization of certain revenue bases, especially the direct taxes, indicated that more finance could be raised through the improvements in the compliance with the tax demands.

To achieve this objective a set of suitable measures ought to be devised and properly executed. These measures should include rationalisation of tax structure, streamlining of procedures, improvements in tax administration including minimisation of corruption and prevention of evasions.

Moreover, as the inflationary conditions are likely to persist, as the country's experience over the last three decades shows, the tax measures must be implemented in the manner that neutralises the inflation induced budgetary gains or losses It was noted that while the indirect taxes indicated a marginal inflation induced gains, the direct taxes exhibited considerable inflation induced losses The neutralization of such gains or losses is imperative from the point of view of maintaining a reasonable size of the Plan investment in the country.

Further, for raising additional finance from domestic sources the revenue bases which are being tapped inefficiently have to be exploited properly to the extent possible Because, the revenue generation from the non-tax sources cannot meet the shortfall in the required resources which is likely to occur as a result of a declining aid package and a somewhat stagnant nature of remittances from abroad. This therefore suggested that domestic resource mobilisation efforts ought to be stepped up with a greater vigour and in a more judicious manner than in the past so as to raise adequate funds for fresh investments. □

Assam's first micro hydel project

BORDIKHARU in Karbi Anglong District, Assam, is the first micro hydel project to become operative in the State.

With a capacity of 4×500 KW, the project consists mainly of a weir across River Bordikharu, called Dikhrupti by the Karbis, (a local hill tribe). The lake formed by the weir is about 110 sq. km. in area Electricity from Bordikharu Power House is brought to Dokmoka from where it is distributed to Dengaon and other places.

The project was started in 1978. It took 35.000 mandays of work to complete the project. It was commissioned at a cost of Rs. 275 lakhs. □

Education for the weak

Kusum K. Premi

To promote education among weaker sections on an even keel in the Seventh Plan, free elementary education for them and exclusive allocations for its qualitative implementation may be given priority. Besides, fixing a group priority among the weaker sections and adopting a disaggregated approach by taking district as the unit should be considered, says the author.

THE WEAKER SECTIONS have been an areas of special concern since independence. The Constitution of the country not only guarantees equality to all the groups in the country, but also provides for protective status to certain groups of people, specially scheduled castes, scheduled tribes and women.

Following the spirit of the constitution, the various Five Year Plans have intitiated a number of policies and programmes for the different groups of weaker sectiins. All the six Fixe Year Plans ahve made special allocation for the development of the weaker sections. Starting with an allocation of Rs. 31.90 crores in the First Five Year Plan, the Sixth Five Year Plan allocated a total of Rs 960.30 crores for the welfare of backward classes. A major share of allocation (Rs. 506.50 crores in the Sixth Plan) has gone to education.

Since Fourth Five Year Plan the programmes of equalisation received increased emphasis. The Fifth Plan initiated the scheme of special Sub-Plan for the scheduled tribes. The Sixth Five Year Plan paid special attention to various groups of weaker sections including women. The scheme of Special Component Plan for the scheduled castes was started in this plan. For promoting girls' education, special targets were set by the Sixth Plan. Efforts for universalisation of elementary education and expansion of adult education were to be specially directed towards enrolling more women. Appointment of women teachers and hostels for women are some of the special strategies suggested by the Plan for promoting girls' education

Some of the important programmes for the weaker sections in education are : provision of schooling facilities within walking distance; free education at the elementary level; provision of ancillary services such as equipment, uniform and mid-day meals; stipends and scholarship at secondary level; post-Matric scholarships and reservation and relaxation in marks in high education in the case of scheduled castes and scheduled tribes; and institution of 4 scholarships per block for children living in the rural areas.

Accruing benefits

As a result of various special programmes there has been an improvement in the educational situation of the weaker sections, in particular, of scheduled castes and scheduled tribes and women. Thus the literacy rates for women improved from 7.9 per cent in 1951 to 24.8 per cent in 1981. In the case of scheduled castes also there was an increase in literacy rate from 11.3 per cent in 1961 to 14.7 per cent in 1971 and 21.4 per cent in 1981. Similarly the literacy rates of scheduled tribes improved from 8.3 per cent in 1961 to 11.3 per cent in 1971 and 16.4 per cent in 1981. In employment too, in terms of their percentage representation in class I and class II categories of jobs the situation of scheduled castes and scheduled tribes improved over the last 3 decades indicating vertical mobility.

In relative terms also there has been considerable improvement in the educational situation of the weaker sections. For example, the disparity index of male-female literacy which was .54 in 1951 came down to .33 in 1981. At the school level the coefficient of equality for scheduled castes improved from 75.5 in 1964-65 to 89.0 in 1978-79. At higher educational level the increase was more significant, from 37.4 in 1964-65 to 53.6 in 1978-79 in the case of general education and, from 29.3 in 1964-65 to 51.8 in the case of professional education.

However, the gap between scheduled castes and scheduled tribes and the others continued to be wide. Various research studies also indicate that the gap among different groups of weaker sections is widening. It is futher noticed that improvement in educational situation of weaker sections is more in prestigious professional colleges, it is good in general arts and science colleges and is much less than their representation in higher education in general. Even quantitatively the picture is not as good as is given by official statistics as there is higher dropout and stagnation rate among the weaker sections compared to general population.

All this calls for a review of policies and programmes for the weaker sections; and initiation of new strategies in the VII Five Year Plan. This paper attempts to review various policies and programmes for the weaker sections in education with a view to identifying issues which need to be considered in the Plan. The paper makes use of various research findings to highlight a particular strategy.

The policy of protective discrimination in education, specially reservation for certain groups in educational institutions calls for an objective review of policies towards the weaker sections so that some better strategies could be evolved.

Too Late for Equalisation

A review of various programmes for weaker sections reveals that most of the meaningful programmes in education specially the programmes for the scheduled castes and scheduled tribes relate to higher education. At school level, although education is free it is not cost free to the poor. No doubt, some provision is made for the free supply of uniforms, books, equipment and midday meal, but the coverage continues to be low. Also, opportunity cost is very high in the case of weaker sections who are poor and whose children when they are 7 or 8 years old start working for mere subsistence. The result is that in spite of provision of facilities, the same are not available to really poor children of the weaker section. Further, a very large proportion of them drop out even before completing the primary education. But what is of greater concern is the that the dropout is not always of academically weak students but is of economically poor ones.

From the viewpoint of bringing children of weaker sections in school and retaining them in the system, it may be necessary not only to give free tuition but also to cover the actual private cost of education. For this more money need to be set apart in the VIIth Five Year Plan for providing various services free to cover all weaker children.

Indifferent administration

Further even when some incentives are provided there is no proper administration of the same. The result is that these are not always available in time. It is our contention that aid delayed is no aid. It defeats the very purpose of the aid. For ensuring fuller benefit of the scheme, there should be a system of continuous monitoring of the schemes. The VIIth Five Year Plan should provide for some money for the purpose.

There is also need to evaluate the impact of various programmes, so that money could be diverted to programmes which yield better results. It is suggested that separate provisions in the budget should be made for evaluative studies.

The implementation of the schemes leaves much to be desired. It has been brought out time and again, that while many policies and programmes are good, they do not yield the desired results because of indifferent administration. From viewpoint of effective implementation of the programmes, training of administrators with a view to sensitising them to the problems of weaker sections has been considered necessary. Provision for such training in the VIIth Five Year Plan will go along way in deriving the maximum benefit from the money invested.

Quantity vs. Quality

It is note-worthy that most of the programmes for the weaker sections have, by and large, been aimed at quantitative expansion of their enrolment. Stipends, scholarships, provision of ancillary services, hostel facilities are all aimed at enrolling more and more children of weaker sections in the schools. Very little is done to see that children continue in the school system and their performance improves over the years. In fact, qualitatively the situation has not yet been diagnosed properly. The available statistics give only the enrolment of weaker sections, indicating thereby the governmental concern for quantity.

There are quite a few studies now which indicate poor performance of children from the weaker sections, specially those belonging to the scheduled castes and the scheduled tribes. Similarly some studies indicate that, in higher education a much larger proportions of students belonging to weaker sections, as compared to students belonging to higher socio-economic categories, are concentrated in arts courses and the less prestigious professional courses.

Of late, some money has been allotted for remedial teaching for the scheduled castes and scheduled tribes and some of the institutions have started remedial teaching classes also. However, very little is known as to the stage at which remedial teaching should start, what should be its content, who is to teach, and how it has to be carried out?

The effect of neglect of quality is now telling on the quantity itself which is clearly reflected in the high rate of dropouts. In the Seventh Plan, therefore, one needs to consider the programmes of qualitative improvement for which some resources need to be earmarked exclusively. One programme of raising the qualitative level of the weaker sections, which we suggested earlier, is to identify 1000 meritorious students from the deprived at the end of secondary level from different boards, give them good vocational guidance and

place them in good institutions according to their aptitude. Considering the cost of living a scholarship of Rs. 500 p.m. was suggested for the period until they complete the course. A continuous monitoring of their progress and, remedial teaching whenever found necessary was also suggested. Such schemes can be started by the states even by identifying meritorious students from the weaker sections at the end of class V or class VIII.

Fixing of priorities

Another issue which needs to be considered in the VIIth Plan regarding the education of weaker sections is the question of fixing of priorities among weaker sections themselves. In the Indian context the weaker sections comprise scheduled castes, scheduled tribes, women, people living in rural areas, and people living in backward and remote regions of the country. On these criteria about 90 per cent of India's population would fall in the category of weaker sections. Considering the availability of resources it may not be possible to have any meaningful programme which can cover all the above groups.

From the view point of policy it is necessary to understand the system of inequities in a realistic perspective. This can be done by building a pyramid of inequalities. We have attempted to build such a pyramid by taking literacy rates in 1971 as an indicator. From the pyramid it has been observed that females as a category are deprived compared to males. Among the males rural males are more deprived compared to urban males. Similarly, rurel females are more deprived compared to urban females. More interesting is the fact that non-scheduled-urban females have higher literacy rate compared to rural males of all categories-total, scheduled castes and scheduled tribes, urban-males are better than non-scheduled females.

The implication for the policy are clear. Any blanket formulate of incentives either to the scheduled groups or to the females will not be fair from equity considerations. While such a policy may help to reduce disparities between the two groups it may create more inequalities within group. There is now sufficient evidence that while scheduled castes and scheduled tribes and non-scheduled castes and non-scheduled tribes disparities in literacy and enrolments have reduced over the last three decades as a result of policy of protective discrimination, within group inequalities among scheduled castes and scheduled tribes have increased not only along caste lines but between males and females as well.

For overall reduction of inequalities it is, therefore, necessary to give special attention to sub-groups within broad groups of weaker section. Basing on the literacy figures for various groups of the deprived, it may be necessary to concentrate on rural females of all the categories, i.e. scheduled castes, rural females, scheduled tribes rural females, non-scheduled rural females. A second-priority need to be given to scheduled castes and scheduled tribes rural males and scheduled castes and scheduled tribes urban females. Non-scheduled urban males is the only category which may not need any special attention.

The area approach

In addition to identifying weaker groups needing priority in the VIIth Five Year Plan, it will also be useful to identify the districts which need special attention during the Plan period. So far the policies, that have been formulated to help the weaker sections, have taken State as a unit. But now there is considerable evidence which points out that within state inter-district differences are greater compared to inter-State differences. The research evidence also indicates that there is a high degree of temporal stability in respect to educational development as indicated by literacy rates.

For identifying backward districts from viewpoint of education of weaker sections one can use a variety of indicators. We at National Institute of Educational Planning and Administration (NIEPA), have identified backward districts from viewpoint of women's education on the basis of number of indicators. These districts may be taken up for priority attention in the VIIth Five Year Plan. Similarly exercise may also be attempted to identify backward districts from the viewpoint of education of scheduled castes and scheduled tribes, such districts should get priority in the VII Plan. It is hoped by so doing one will be in a position to use the available resources for the education of the weakest in a more meaningful way rather than disbursing them too thinly over all the weaker groups and all the disadvantaged areas.

Conclusion

This paper reviews some of the policies in education for the weaker sections. In so doing an attempt has been made to identify the areas of priority and suggest some of the new strategies of the VIIth Five Year Plan should aim at (i) giving higher priority to elementary education of weaker sections, including additional funds for making elementary education cost free for the weaker section; (ii) special allocations for monitoring of various schemes with a view to ensuring timely and effective implementation of various schemes; (iii) provision for evaluation of the various special schemes in order to identify schemes which yield maximum benefits; (iv) exclusive allocations for the programmes of qualitative improvement and for conduct of researches in the area of education of weaker sections; (v) fixing of group priority among the weaker sections, and (vi) adopting a disaggregated approach by taking district as the unit and giving priority to the most backward districts

There may be several other issues from the viewpoint of promoting the education of weaker sections and it will be useful to keep them in mind while formulating the VIIth Five Year Plan. □

SDPD/84—4

TOWARDS SOCIAL REVOLUTION
a Case for Economic Democracy -
VASANT SATHE

A Serialisation 6

The Political System
Sustenance of democracy

AN IMPORTANT FACTOR FOR SUSTAINING DEMOCRACY is the existence of at least two strong parties at the national level which could provide a meaningful choice to the people. Party organisations have also to be democratic in their structure if their rank and file as well as their leadership are expected to imbibe faith in democracy. If there is no functional democracy within the party framework, the persons who may use that party to gain the confidence of the people and acquire political power would also do so without having any inherent faith in democracy itself.

Hence, the same principle of representative character, according to which representatives are chosen in a free and fair election, must also apply to the internal working of every political party. A political party being a better organised entity, where there is a day-to-day interaction between the leaders and the members, needs to have a better organisational pattern. The membership of a political party must also be clearly identifiable and definable as consisting of those who willingly accept the aims and objects as well as the policies and programmes of that party. Some time back, I had, in a letter to the Congress President, made a proposal for restructuring the Congress Party right from primary membership onwards, suggesting that in today's money value, the membership fee should be Rs. 5 and the member should be provided by the party with an identity card carrying his photograph and full address. The suggestions made in that proposal are applicable to every other political party and I am therefore reproducing extracts from the said letter:

> Any elections held on the basis of existing membership, which is largely bogus, will not be in the best interests of the party. Any person who is supposed to have enrolled 25 primary members is considered an active member and normally this active member pays Rs. 25 from his own pocket in the name of 25 different persons and that becomes the basis of ordinary members' list. Obviously, an organisational superstructure based on this type of "active members" and "ordinary members" lists will erode the very foundations of our organisation. I would therefore suggest the following measures:
>
> 1. We should have a fresh membership enrolment on the basis of every member paying Rs. 5 per annum as membership fee. This member should be given a membership identity card with his photograph. These cards can easily be preserved when given in a plastic cover. Duplicates of these cards can be preserved both at the state level as well as the central office.
> 2. Membership fee thus received can be distributed in the following manner :
>   Rs. 2—towards printing of the card;
>   Re. 1—with the central office funds;
>   Re. 1—each—with the state and district offices.
> 3. There should be no artificial division as "ordinary" member and "active member", because each member is supposed to be active. Those who show greater interest in the party work would naturally get better opportunities.
> 4. Organisational structure from block level upwards should be on the basis of elections by these members. Election machinery with independent outside sympathisers could be formed and entrusted with holding impartial and fair elections, somewhat on the lines of Election Commission.

Party funds and financial structure

It has been our experience that although the Congress had been in power throughout the country during the three decades, we have not been able to put our organisations at various levels, down to the district or taluka, on a sound financial footing; where-

as individuals have benefited and institutions have come up, but they are not connected with the party and the party units do not derive any regular financial income from them.

One of the main sources of regular income in most of the urban areas and district centres is from the rental of buildings. Many individuals and businessmen, through their influence, have been able to acquire good plots in major commercial centres of cities and towns and have constructed huge buildings and commercial complexes with the help of public financing institutions such as banks, LIC (Life Insurance Corporation), etc., and are getting substantial rental benefit. If we could have thought of allowing district party offices or even state party offices to get some important plots and construct on them such buildings which could be rented out to banks, etc., on a commercial basis, today our district and state level office could be legitimately earning substantial financial revenue to maintain their staff and administration and whole-time workers. Any political party could do this without inviting criticism.

There must be a genuine, continuous and legitimate source of income to district and state officers which will enable them to pay a decent enough salary to their office-bearers. If a whole-time president and general secretary at the district or state level are paid a salary equivalent to that of an MLA or MP, that may prevent each and every one seeking legislative offices.

Avenues of promotion for party workers

(1) A time has come when we should be able to select and promote right people for right fields. To do this we should be able to identify members according to their likes, aptitudes, tastes and qualifications and then to promote them in these areas

(2) One way of providing avenues (of promotion) to the party cadre is to put them as members on the managing boards of various institutions which get finance from the public financing institutions. We should be able to take a policy decision that every institution, whether public or private which takes more than 60 per cent of its funds from public financial institutions, must appoint at least three members as directors on its managing board, to be nominated by the said financing institutions. One of these directors should be from the financial field or the institution and one each nominated by the State and Central Governments. These members should be active and qualified workers from the ruling party. These members would be paid regular monthly remuneration. They will not only get experience in the working of these various industrial and commercial units but will also be able to oversee that the objectives of the ruling party, as representing the people, are properly implemented.

(3) It is time that we reorganised even our legislative functioning by dividing legislators into various statutory committees according to important subjects. All legislations, after their introduction, should go to these committees for clause-by-clause consideration and should come back to the legislature only for the final reading and passing. This will not only save much of the time in legislatures but will also be able to achieve more positive contribution by the members. One of the reasons why members do not take interest in legislative work either in parliament or in assemblies is because they hardly get a few minutes to make any contribution on a particular Bill. Once legislative work becomes a serious affair to be done in a committee chamber, political parties will also think in terms of selecting and sending qualified and knowledgeable persons to legislatures.

(4) Apart from other institutional and legislative avenues as described above, the party can be divided into more modern cells, such as "science and technology cell", "media cell", "environment cell", etc., in which more systematic studies should be made by party members in collaboration with independent experts of various subjects as associate sympathisers and there should be a close liaison between those cells and members of legislature of the party. It is very necessary to revive the practice of "study circles" where serious studies are made on various socio-economic and other subjects. Like the government in a welfare state, a political party is now concerned with practically every field and aspect of the society's life and there should be ample scope for serious and in-depth study and consideration in these various areas. There is too much of superficiality and exuberance in the activities of our party members at various levels. It is more in the form of a continuous election campaign and there seems to be hardly any time for party members to apply their mind to the study of any particular field or even problems.

I have often believed that we must discourage party workers from doing what is called "free service" in the name of selfless sacrifice for a cause. This has a highly demoralising and corrupting effect, particularly when they see that those who ask them to give such service are themselves economically quite well off and have acquired good positions. An effort must, therefore, be made to see that everyone who gives his whole time for that party is provided with a legitimate and regular source of income.

Another aspect which needs to be considered very seriously is the necessity of a national authority which should be elected directly by all the citizens of the country. Such an authority is necessary to maintain the unity and integrity of the country as a nation. This, in turn, will automatically impel the growth of more than one national party operating at the national level. A suggestion could be considered as to whether the chief executives of the country, such as the president, the vice-president and prime minister could not be elected directly by the people of the whole country. They should be answerable to the Parliament, in matters of policy, but they shall not be liable to be removed by the Parliament except by way of impeachment requiring a two-third majority of those present and voting which must also be an

absolute majority of both the Houses of Parliament. The powers of the president, the vice-president and the prime minister can be clearly defined and can be made complementary without any conflicting areas. For example, the president can be made responsible for all executive and administrative actions to implement the mandate given by the people who elected him and also administer the country according to the laws made by the Parliament from time to time. The vice-president, who would assist the president, could also be given specific departments. The prime minister would be mainly responsible to Parliament and would attend Parliament and be answerable to it for the general actions of the government. All this can be done just by amending Article 52 to 56 of the Constitution and by other incidental changes so as to provide for direct election of the president by the entire electorate of India.

As stated earlier, Parliament itself would be divided into statutory committees according to major heads of administration where members in smaller groups would be able to study the legislative measures more closely and would also be able to keep a closer vigilance on the administration of various departments. The general open session of Parliament would then be required to meet hardly for a period of two to three months, when there would be greater scope for members to express their views on general issues and policies to be debated at greater length and detail.

This, in turn, would also encourage the political parties to select members to the legislature with greater knowledge and experience in various fields to which they would be required to make a contribution. As the political cadre would have much greater avenues of remunerative occupations, such as the paid membership of the board of management of practically every type of organisation which takes a major part of its finance from public financing institutions, there would be no paucity of avenues for the active party cadre and it would not be necessary for every person to seek membership only in a legislature, without having the requisite qualities or aptitude. The question of misfits with ulterior objectives comes in when there is lack of opportunities otherwise. This happens practically in every field.

If there are no adequate employment opportunities, then, people try to get employed and get admittedly for considerations other than merit even to specialised fields such as medical sciences and engineering as well as to administrative posts. It is obvious that this can be highly dangerous and can retard progress. One cannot think of making a man a pilot of a passenger jet plane for any other consideration except strictly his capacity to fly the plane. The same is true of all public offices, where the lives of the people, in one form or the other, depend on the quality and capability of the persons entrusted with the responsibilities. But today, because the damage done by people in public elective offices not having adequate qualities or capabilities for the job is not immediately visible and because, fortunately, there is still an administrative machinery to actually implement their decisions, nobody seems to bother about the need for electing capable people as their representatives to the various legislative chambers. But opportunities of employment would grow and as legislative chambers become more effective with functional committees, requiring a more serious and in-depth contribution by the members, the character of representation would automatically change. This, in turn, would increase the respect for the elected representatives not only in the administration but also among the common people. If the credibility of democracy is to be maintained and enhanced, this improvement in the quality and functioning of legislatures has to be brought about.

There is an urgent need for considering the matter of reorganising the parliamentary system and also for creating a nationally elected authority with the mandate and sanction of the entire nation. Fissiparous tendencies having strictly regional, parochial and chauvinistic appeals are raising their heads, threatening and endangering the very unity and integrity of India as a nation.

We have seen from experience in this very subcontinent that it does not take long for a nation to disintegrate if parochial and linguistic considerations overpower and dominate the feelings of a united nation. It is, therefore, a matter of serious urgency for all intellectuals and thinking people in our country to start a debate for considering ways and means and steps required to be taken to prevent any such unfortunate development.

Even today, the opposition leadership has not realised the need for subserving their personal or group interests in order to create a national alternative to the Congress. As a result, narrow emotional appeals at the regional, linguistic and parochial levels have become stronger. There is the obvious tendency for the growth of regional parties. Everyone realises that this is a dangerous trend because it will only encourage fissiparous and divisive forces. But because realism and pragmatism have come to mean personal aggrandisement, we do not see a cohesive effort in the political leadership to rise above narrow selfish considerations for the greater cause of the survival of the nation as a united and strong democracy. This is an imperative and basic need, and sometimes one feels that the younger generation of the intelligentsia should take up the challenge and, if necessary, ask the politically stagnant leadership to retire from the field and build a cohesive national dynamic force believing in democracy and in the welfare of the entire people of a united and strong India.

The concept of regional autonomy should be acceptable only as a factor that encourages economic and/social growth in a balanced manner, and it should never take the artificial form of being restricted on the lines of religion, caste, creed or language. If, for the purpose of bringing about growth in an

efficient manner, administrative decentralisation becomes more useful, such units can always be formed and given greater powers but without in any way interfering with the unity and integrity of the Indian nation as a whole. These are matters which can always be resolved by a rational dialogue, In fact, such a remedy was already visualised when Article 371 was incorporated in the Constitution.

Unfortunately, the biggest malady on our national scene is the absence of the necessary dialogue among the thinking people at all levels. There is indulgence in superficiality and an attempt to attack the symptoms rather than the disease. This is easily apparent even if one takes a look at the general topics in the newspapers—even the national newspapers of the country. Unless there is a strong urge in the thinking people and in the political leadership to sit together with an open mind without prejudice and a willingness to subserve personal and narrow group interests, it will not be possible to maintain a healthy parliamentary democratic system at the national level. The danger of parochial forces raising their head and threatening disintegration will continue to loom large.

Sometimes, one feels that only if the national Press —which has shown that it can influence trends when it asserts itself collectively, for instance, in the matter of the Bihar Press Bill—decides to emphasise the need for a national democratic party, can a campaign be launched to bring together all politically inclined forces and to persuade them to form a national alternative. If the Press and the young people of the country were to take up this issue seriously, the task should not prove difficult and it would be the greatest service to democracy if a national disciplined political alternative were to emerge at this critical juncture. But here also the supreme test of *Adveshta Sarva Bhutanam Maitrah Karuna cvach, Nirmamo Nirahan Karo Sukh Dukh Samakshmi* will have to be strictly applied by all concerned. (Hatred towards none, friendship and compassion to all, without selfishness or ego and with equanimity in pleasure and sorrow).

In this context, it would be relevant to briefly consider the concept of non-violence as preached and practised by Mahatma Gandhi.

India has always been proudly proclaiming the inheritance of great and enlightened preachers and teachers like Buddha, Nanak and recently Mahatma Gandhi and Vinoba Bhave. We are constantly projecting the life of Gandhi, emphasising the insistence on the creed of non-violence even in struggles against oppression. Recently, Attenborough's film on Gandhi and his message of non-violence has received tremendous popular response throughout the world. Consequently, people outside India are bound to be curious about the extent to which Gandhiji's teachings are being practised in his own country. Fortunately, there is no divergence of opinion even among the opposition parties in paying respect to the philosophy of Gandhiji, in particular, relating to non-violence.

May I suggest that, as a basic norm, all political parties and social and religous organisations should take a solemn pledge not to resort to violence for any internal struggle ? I have been an active trade unionist for more than 35 years and have led trade union movements for many years; leading protest marches and morchas was, in fact, a regular activity of mine. It is my belief, based on experience, that if the leadership is clear in its mind, violence can be totally avoided. In all my trade union activities, I persuaded all other trade union activists to ensure that we did not allow even a modi-cum of violence in our trade union movement.

The police then have the responsibility to ensure that as long as demonstrations remain peaceful and do not create a law and order problem, such as obstructing traffic or normal life, they do not resort to the use of force against the people. Individual crimes can always be taken care of by the law and order machinery and one simply cannot conceive of any right by which a person or a group of persons can possess lethal weapons, that too in the name of religion. This issue needs to be seriously discussed and serious questions asked. The carrying of arms may have been necessary at a particular period in history, but to continue it as a part of religion even in this age is the height of absurdity and irrationality. Unfortunately, people are afraid even to discuss such matters. It is this blind irrational fanaticism which is leading to the revival of fundamentalist movements in the name of religion. As has been said earlier, every religion and its founder have essentially preached peace, love and amity among human beings. Hence, if every political party and social and religious organisation in the country makes a sincere pledge to adhere strictly to non-violent methods in resolving their problems, I think India can at least set an example by trying to live up to the philosophy of non-violence preached by the Father of the Nation.

A look back at one of the main objectives which the early planners, and particularly Pt. Jawaharlal Nehru, had set for themselves, namely, that of ushering in socialist democracy is also called for. We have talked so much about socialism and we even enshrined the word 'socialist' in the preamble of our Constitution along with the basic objectives of democracy and secularism. But now that word is becoming an anathema to some and very few approve of it. The reason is that the moment we discuss socialism, there is a tendency to get involved in doctrinaire cliches and conjure up visions of economic authoritarianism which goes against the essential tenets of democracy and individual freedom.

The truth, however, is that socialism aims at ensuring and promoting maximum freedom to individuals to engage in economic, social and political activity, conducive not only to their own growth but also to that of the entire human society. The primary consideration here is that every action of an individual must be in harmony with, and conducive to, the well being, health and growth of the entire human race. The most suitable analogy is that of a

human body. The size and the role of one part differ from those of another but yet, every part, nay, every cell, has its own importance. The role of the brain (like that of a government) is to provide the necessary stimulus and direction to all parts to function in a healthy, harmonious manner. We must think unless the lungs and heart constantly supply it with fresh blood.

Therefore, what we should have is an economic democracy which should be truly participatory at every level so that there is a constant link, coordination and interaction between all sections and any mistake or distortion is corrected immediately. At the parliamentary level, this is to be achieved by active statutory parliamentary committees of manageable sizes to which the ministries and the administration would be answerable and which would exercise constant vigilance.

Jawaharlal Nehru was convinced that the real solution to India's economic problems lay in socialism. He wanted it to be adopted within the political framework of democracy so that the advantages of individual freedom could be retained along with socio-economic justice to be achieved through socialism. He had stated in his presidential address to the Indian National Congress as far back as 1936 that:

"I am convinced that the only key to the solution of the world's problems and of India's problems lies in socialism.

"I see no way of ending the poverty, the vast unemployment, the degradation and the subjection of India's people except through socialism. That involves vast and revolutionary changes in our political and economic structure, the ending of vast interest in land and industry as well as the feudal and autocratic Indian States system. That means the ending of private property, except in a restricted sense, and the replacement of the present profit system by a higher ideal of cooperative service." In his autobiography published in 1936, elaborating his thoughts on socialism, Jawaharlal Nehru has stated:

"Socialism inolves a certain psychological outlook on life and its problems. It is more than mere logic. Inevitably we are led to the only possible solution—the establishment of a socialist order, first within national boundaries, and eventually in the world as a whole, with a controlled production and distribution of wealth for the public good.

If political or social institutions stand in the way of such a change, they have to be removed.

To compromise with them at the cost of that desirable and practical ideal would be a gross betrayal.

It is obvious that the vast changes that socialism envisages cannot be brought about by the sudden passing of a few laws. But the basic laws and power are necessary to give the direction of advance and to lay the foundation of the structure.

If the great building up of a socialised society is to proceed, it cannot be left to chance nor can it be done in fits and starts with intervals of destruction of what has been built.

The emotional appeal of socialism is not enough It must be supplemented by an intellectual and reasoned appeal based on facts and arguments and detailed criticism.

If socialism is to be built up in India, it will have to grow out of Indian conditions, and the closest study of these conditions is essential."

Talking about socialism in the context of individual freedom and democracy, Nehru had expressed his view as follows:

"Real world order and peace will only come when socialism is realised on a world scale

I think it is possible in theory to establish socialism by democratic means, provided of course the full democratic process is available. In practice, however, there are likely to be very great difficulties, because the opponents of socialism will reject the democratic method when they see their power threatened.......

I do not see why under socialism there should not be a great deal of freedom for the indivdual; indeed far greater freedom than the present system gives; he can have freedom of conscience and mind, freedom of enterprise, and even the possession of private property on a restricted scale. Above all, he will have the freedom which comes from economic security, which only a small number possesses today.

I think India and the world will have to march in the direction of socialism unless catastrophe brings ruin to the world. That march may vary in different countries and the intermediate steps might not be the same."

Addressing the Conference of All-India Manufacturers' Organisation in New Delhi on 14th April, 1956, Jawaharlal Nehru set at rest all distinctions between socialism and the socialistic pattern:

"A socialistic pattern is socialism. Some people seem to make fine distinctions among socialistic pattern, socialist pattern and socialism. They are all exactly the same thing without the slightest difference".

About political democracy in the context of economic progress, in a letter to an English-

man, written as early as January 1936, Nehru has stated :

"Political democracy is the only way to the goal and is not the final objective. The real demand for it comes from a desire| sometimes unconscious, for economic changes. If these changes do not follow soon enough, the political structure is likely to be unstable. I am inclined to think that in India, circumstances as she is today, the need for economic changes is urgent and a vital political change will inevitably be accompanied or followed by substantial economic changes".

As stated earlier, it is high time that politicians, ntellectuals and the youth rose above narrow personal ·onsiderations and got together for the larger cause ıot only of saving democracy but also of putting it o the service of the people.

Very often, in the name of pragmatism and realism, persons, particularly those who have been in the power game, seem to feel that all appeal to higher values or ideals is impracticable and unrealistic and s meant only for public consumption and for paying ip sympathy, but, in actual life, the other considerations of practical power politics, where the theory of the survival of the fittest alone operates, are more valid. These people know that in practical politics funds are required for elections; for holding party conferences and conventions; and for other activities and that these funds come mainly from those who possess large quantities of unaccounted money and have benefited by the decisions of the people in authority. We often talk so superfically about corruption without realising that corruption, like pollution or blood-poisoning, has become a part of the whole system and unless some serious measures are taken to eradicate this malady from its very roots, a piecemeal solution or attacking the symptoms will never solve the problem. As to the source of this corruption and how it has become all-pervasive. I shall deal with those issues in subsequent chapters. But ultimately, the political structure, the socio-economic structure and the philosophical approach all go together, one influencing the other. Unless we have a total view of things and a holistic approach to life, it will not be easy to find solutions to our problems. (Next issue : The Economic system)

(Continued from page 9)

- Such economic, measures as led to the industrialisation of the country in phases, and also towards revision of the ryotwari settlement and modernisation of agricultural methods, were increasingly adopted.

The measures taken might have been only marginal, and sometimes even peripheral, but they did correctly set the pace of things to come in the next few decades.

The renaissance

Nineteenth century was one of renaissance in India. In the background of a movement, first for self-determination and, then for political freedom, it witnessed an efflorescence of learning, erudition, oratory and leadership in the country, which overlapped into the early twentieth. The century threw up an array of leaders and men of letters of such excellence the like of which India has seldom witnessed.

The best of national thinking, however, blossomed in the context of the struggle for self-determination and independence. The entire panorama of their writings and oratory had naturally, therefore, a political format, in that it was to serve the ends of a freedom-movement, a movement of emancipation of a people in bondage. The trends of the renaissance continued in the early twentieth century with a renewed emphasis and more prolific political overtones. As I said, there was, however, a clearly discernible economic content.

I shall now endeavour to give a profile in one place of economic content and corpus of the Indian renaissance in the nineteenth and early twentieth centuries in as brief a format as possible.

Quite early in the nineteenth century, as I said, Ranade, Nauroji and Ramesh Chandra Dutt focused attention on the policies of economic deprivation and exploitation pursued by the British Government, through the vehicles of 'the imperial preference' and 'the drain'.

They took up cudgels against such policies, and formulated the theories of surplus and state-responsibilities, and were talking of implementation of such concepts as plough-back and economic rehabilitation.

Followed in their trail the quick-silver writings and oratory of Tilak, Annie Besant and Gokhale, who took upon themselves the national responsibility of exposing the hollowness of the economic policies and administration of an alien government, geared to the absolute requirements of a colonial rule.

These great men, followed by Rabindra Nath Tagore, Chitta Ranjan Das and Mahatma Gandhi, were constantly formulating principles and policies of economic rejuvenation and socio-economic equities.

They developed the economic outlines of *swarajya* (self-governance), launched the *swadeshi* (indigenous production) movement, and formulated principles of economic planning in the national debate of economic programmes.

In independent India, Jawaharlal Nehru set up the amphitheatre of economic planning for accelerated economic development of India in the shape of the Planning Commission.

The effectiveness of the range of economic philosophy adumbrated by these thinkers has been traced in the theory and practice of economic development in India, in order to determine their vision and perspicacity, in the context of today's economic situation, right up to the historic Nehru Resolution. ☐

Increasing food production

G. A. Kulkarni & Shambhu Dayal

The authors here discuss the likely increase in food production on account of various measures such as use of irrigation, adoption of high yielding varieties of seeds and application of fertilizers. Limitations of these measures have been pointed out along with the remedial suggestions.

INDIAN AGRICULTURE IS FACED with contradictions. The drought invaded about three-fourths of the country during 1982-83 and emergency measures were launched by Government to salvage as much crop as was possible. However, as a result of sustained campaign which ensured supply of essential inputs such as fertilizers, improved seeds and irrigation, we succeeded in achieving a good rabi harvest. During 1983-84, we have achieved a record food-production of 149 million tonnes mainly because of the good rains. These situations, however, demonstrate that our agriculture is, by and large, still at the mercy of nature. Further, during unfavourable times, concerted efforts do bring about some good results. The long-term strategy for agricultural development has, therefore, to break this constraint of nature in a big way but in the immediate future we have to operate within this constraint and maximise the production through measures at our disposal.

We know that in spite of our best efforts, only about one-third of the area under crops has been brought under irrigation. There is an imperative necessity to bring further area under irrigation. However, investments and efforts on the irrigation front have to be on a very large scale. As short-term measures, we have to provide fertilizers and high yielding varieties of seeds etc. to the areas under crops. These measures may not require very huge investments.

An effort here has been made to estimate as to how much increase in food production is possible if no further investments on irrigation are made. Further, if we are investing in a big way on irrigation projects, it is to be seen how much increase in the production can be expected. The projections have been made on the basis of yield rates already achieved in the field and not on the basis of yields achieved in controlled experiments. The projections, therefore, present a realistic picture, of course, with the assumption that the technology applied in the experiments would not be adopted in the field extensively in the immediate future and also that much scope is not left for bringing additional area under crops.

Increments in food production

All India area yield rate and production of high yielding and local varieties of rice, jowar, bajra, maize and wheat in irrigated and un-irrigated area during 1978-79 are given in Table I. The year 1978-79 has been chosen for the reason that this was not a bad year and the production achieved was 132 million tonnes which was just one million tonne below the production of 1981-82. Certain approximations are made since precise data at all India level were not available. Table II gives expected all India production of these crops if high yielding varieties and irrigation are extended to new cultivated areas. Generally high yielding varieties are treated with fertilizers and are sown in areas where irrigation is assured.

In the following paras of this section, we have worked our various combinations of the use of irrigation and high yielding varieties of seeds (along with fertilizers) to investigate how much increase in food grains is possible.

We find in Table I (Col. 5) that in 11.7 million hectares of areas under these five crops, high yielding varieties are not sown although irrigation is available. One of the measures for accelerating food production can be to ensure that high yielding varieties of seeds along with fertilizers are sown in these areas. If we

TABLE I

All India area, yield rate and production of high yielding and local varieties in irrigated area.

Year : 1978-79
Area in million hectares
Yield rate in kg/hec and production in million tonnes

Crop	Irrigated high yielding			Irrigated local			Unirrigated local			Unirrigated high yielding		
	Area	Yield rate	Production	Area	Yield rate	Production	Area	Yield rate	Production	Area	Yield rate	Production
1		3	4	5	6	7	8	9	10	11	12	13
ice . .	9 6	2352	22.6	7 2	1355	9.8	20 9	965	20.2	2.8	25	4.5
owar . .	0 2	2149	0.4	0.5	1183	0 6	11 1	572	6.3	4 3	13	5 9
ajra . .	0 3	1813	0 5	0.1	936	0 1	6 4	454	2 9	4.6	77	3.6
laize . .	0.6	2436	1.5	p.3	1486	0 4	3.8	1140	4.3	1 1	140	1 5
Vheat . . .	11 1	2130	23.6	3.6	1160	4 2	6 1	676	4 1	1.8	102	1.8
otal : . .	21.8		48 6	11 7		15.1	48 3		37 8	14.6		7 3

ource:—"Consolidated results of crop estimation surveys on principal crops, 1978-79" by National Sample Survey Organisation.

TABLE II

Expected all India production with extension of high yielding (HY) varieties and irrigation to new areas

Year . 1978-79
Area in million hectares
Yield rate in kg/hectare
production in milion tonnes

rop	Irrigated local area with irrigated HY yield rate			Unirrigated local area with irrigated local yield rate.			Unirrigated local area with irrigated HY yield rate			Unirrigated local area with unirrigated HY yield rate			Unirrigated HY area with irrigated HY yield rate.		
	Area	Yield rate	Production	Area	Yield rate	Production	Area	Yield rate	Production	Area	Yield rate	Production	Area	Yield rate	Production
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ice .	7.2	2352	16 9	20.9	1355	28 3	20 9	2352	49 2	20 9	1625	34 0	2 8	2352	6.6
owar	0.5	2149	1.1	11.1	1183	13.1	11 1	2149	23.9	11 1	1383	15 4	4 3	2149	9 2
ajra	0 1	1813	0 2	6 4	936	6.0	6 4	1813	11 6	6 4	775	5 0	4.6	181[illegible]	8.3
laize .	0.3	2436	0 7	3 8	1486	5.6	3.8	2436	9.3	3 8	1405	5 3	1.1	243[illegible]	2.7
Vheat .	3.6	2130	7.7	6 1	1160	7.1	6 1	2130	13.0	6.1	1024	6.2	1 8	2130	3.8
otal :	11 7		26.6	48.3		60.1	48.3		107.0	48.3		65.9	14.6		[illegible]0.6

cceed in this direction, we can increase the production of these crops, which account for 80 per cent of od production, by 26.6 — 15.1 = 11.5 million tonnes Reference : Col. 4 of Table II and Col. 7 of Table . In a favourable year of good rains (like that of 83-84), the increase in food production will be somewhat more than this. Even in a drought year like that 1979-80, the production would have gone up by 1 million tonnes by adopting these measures.

Production of HYV

The second measure can be the adoption of high elding varieties of seeds to even unirrigated areas. If are completely successful in this direction, we can crease the production by 28.1 million tonnes (Ref. l. 13 of Table II and Col. 10 of Table I). If good ns are available, the additional production would be re than this. Even in a drought year of 1979-80, production would have gone up by 22.7 million nnes.

These two measures do not envisage any additional investment on irrigation front and may increase the production by 36.2 million tonnes. During the year of favourable rains, the increment in production can cross even this level.

Further increase in food production may not be possible with the existing technology unless we tackle the irrigation front. The ideal situation would be, as is practically happening in Punjab, to sow the entire cultivated area with high yielding varieties of seeds and treat that with irrigation and fertilizers. In that case, our food production can be raised by 94 million tonnes. Even if we are able to provide irrigation only to those areas where high yielding varieties of seeds are already sown and adopt high yielding varieties in all the areas where it is not so far adopted, the production can go up by 52.9 million tonnes.

Use of fertilizers

One of the key elements in accelerating food production is the use of fertilizers. The growth in the consumption of fertilizers in the last 30 years has been phenomenal from a level of 0.06 million tonnes in 1951-52 to 6.00 millions in 1981-82. However, the growth rate decreased from 19 per cent in the pre-1965-66 period to only 10 per cent in 1966-67 to 1980-81 period. According to a study carried out by R. Nagraj of the centre for Development Studies, Trivandrum, the causes for deceleration of fertilizer consumption are neither a lack of supply nor the lack of effective distribution system. He finds that for small farmers, the spread of fertilizer use is restricted because of non-availability of credit.

It may also be pointed out that during the years 1980-81 and 1981-82, there has been an increase of about 60 per cent in the prices of fertilizers. During these years, which were years of almost normal monsoons, the growth rates in the consumption of fertilizers were only 4.9 per cent and 9.5 per cent respectively which may mainly be attributed to the increase in the prices. Dr. Gopal Sohbti, Chief Executive of the Fertilizer Association of India, also explains the deceleration in consumption over these two years largely in terms of the sensitivity of farmers to the increase in fertilizer prices.

The year 1982-83, being mostly a year of drought, recorded a growth rate of 6.8 per cent in the fertilizer consumption. In spite of excellent rains and a relief of 7½ per cent in prices of fertilizers during the year 1983-84, it is estimated that the growth rate will be of the order of 12 per cent only. During Kharif 1983, the growth rate was only 8 per cent, the months of August and September, 1983 recording a marginal negative rate of growth compared to the corresponding period during the previous year, which was a drought year.

Although it is difficult to isolate the impact on fertilizer consumption of weather conditions and price relief, it seems the impact of the relief of 7½ per cent in prices of fertilizers has been only small in the face of high doses of increments already given.

Intensity of consumption

It has been estimated that only 45 per cent of the Indian farmers use fertilizers and only one-third of the cropped area is fertilized. And while only one-third of the total area is irrigated, irrigated crops account for 86 per cent of the total fertilizer consumption. Moreover, about 65 per cent of the total fertilizer consumed goes to wheat and rice It has also been found that intensity of fertilizer consumption for 1981-82 (measured in terms of kg per hectare) was as high as 124 kg in Punjab, 67 kg in Tamil Nadu, 50 kg in Andhra Pradesh, 10 kg in Orissa and only 3 kg in Assam, the all India average being 32 kg. During 1983-84, we can expect only a small increase in all India average since the growth rates in fertilizer consumption are not large.

We know that there is a slow growth rate in Eastern and Southern India in the rice production as compared to that in Northern India. The main reason for this appears to be the lack of use of fertilizers and improved seeds. As per rough estimates of National Sample Survey Organisation (1), it has been found that in Assam, West Bengal, Andhra Pradesh and Karnataka, the percentage area under the use of chemical fertilizers was only 2, 32, 36 and 25 respectively whereas the corresponding percentage in Haryana and Punjab were 89 and 94 respectively in 1978-79. Similarly, the percentage area under improved seeds in Assam, West Bengal, and Andhra Pradesh was 6.21 and 52 respectively whereas the corresponding percentage in Haryana and Punjab was 82 and 96 respectively. Irrigated area in Eastern and Southern Zones is also much less than that in Northern Zone.

Abundance of inputs

If we want to accelerate rice production, we have to supply in abundance the aforesaid inputs to the traditional rice growing States of Eastern and Southern India. Thus there is a need not only to increase the rate of consumption of fertilizers but also its use in unirrigated areas. It can be seen from Table I that about 96 million hectares of areas is sown under these five food crops both under irrigated and unirrigated situations. Out of this area, we see that about 48 million hectares are already under irrigation or under high yielding varieties of seeds. Also under 48 million hectares, neither irrigation is given nor high yielding varieties are sown.

We have to make efforts to treat the first category of area of 48 million hectares with fertilizers, and also about 32 million hectares out of the remaining 48 million hectares should be treated with fertilizers and also sown with high yielding varieties of seeds. Thus by the end of the Seventh Plan, we have to keep a target of bringing about 80 million hectares under the use of fertilizers. Further, there will be need to raise the per hectare consumption of fertilizers. It should not be difficult to raise the per hectare consumption of fertilizers to about 70 kg which is almost equal to the level in Tamil Nadu but only 56 per cent of the level in Punjab.

Thus, by the end of the Seventh Plan, there may be a need of 5600 thousand tonnes of fertilizers for these food crops. It has been projected (27 that about 9) 99 thousand tonnes of fertilizers would be available from domestic production by the end of the Seventh Plan. The remaining quantity can be utilized by non-food crops etc. and no imports may be necessary.

Lack of funds

The disincentive for the farmers in using fertilizers in unirrigated areas and in small holdings appears to be mainly the lack of finance with the farmers and the risk in losing even the cost of fertilizers if the crops fail. If the cost of fertilizers on an average is taken as Rs. 3000 per tonne, Rs. 1680 crores will be needed at the current prices to treat 80 million hectares of area under these crops with fertilizers. Government made a provision of Rs. 800 crores in the budget for 1983-84 for subsidy on fertilizers.

(Contd. on page 32)

The battle of numbers

Dr. N.K. Sinha

The birth rate can be brought down by motivating effectively the greater number of eligible couples to accept the family planning norm. Steps should also be taken to make contraceptives available to the users, says the author.

POPULATION INCREASE IS A SUBJECT of discussion in almost every forum. Concern has been shown at trate of growth of population in our country. Family planning programme received official attention right from the first Five-Year Plan. 1981 census result showed that we are 12 million more than the expected numbers as estimated by the Expert Committee.

Creating awareness

The Ministry of Health & Family Welfare claims that more than 55 million births have been averted since the inception of the programme and 29.33 per cent of the currently married couples have been effectively protected against conception as more than 45.0 million people have accepted sterilisation, 11.7 million women have accepted I.U.D. and about 10 million people are using various types of contraceptives. But Registrar General of India's Fertility Survery of 1972 shows that 47.01 per cent of the total live births in rural areas and 43.99 per cent of the total live births in urban areas were of fourth and higher order of birth. The Fertility Survey of 1978 by Registrar General shows that 38.43 per cent and 33.33 per cent of the total births in rural and urban areas respectively were of fourth and higher order of birth. 1971 census shows that 42.0 per cent of the total population were of the age of 14 years and below while RG's 1978 survey (1984 census detail tabulation is not ready) shows that the percentage of population in the age group of 0 to 14 years were 39 per cent.

The gradual change in attitude of the people is quite significant. Even in fifties people used to boast of being father|mother of seven or eight children, but now parents of two or three children feel proud of themselves. Instances are not rare when grown up sons and daughters have expresed anger against their parents on their mother going to hospital for fifth or sixth delivery. There are the signs of the change in social attitude. A favourable atmosphere has been created for acceptance of different contraceptive methods.

People have started feeling the need of a small family and they themselves come forward to accept sterilisation even without any motivation by any health or family planning personnel. This can be amply clarified by the fact that during 1977-78 when 'Shah Commission' was working in full swing, not a single doctor or para-medical staff had the slightest courage to approach anybody for motivation for acceptance of sterilisation. Yet during 1977-78 over nine lakh forty eight thousand couples accepted sterilisation on their own without any motivation which is more than the number of sterilisation acceptors during 1973-74 when 9,42,402 couples accepted sterilisation after proper motivation and persuation by medical and para-medical staff. This shows that an atmosphere has been created in the country when every year more than one million couples will accept sterilisation on their own even if no motivational work is done but only services are provided. We should take advantage of such favourable atmosphere to boost up the programme.

Out of the 123.7 million couples within reproductive age group as on April 1, 1984 we have been able to effectively protect 29.2 per cent couples by different methods. On detailed analysis it would be found that 23.7 per cent of the couples have been protected by sterilisation, 2.15 per cent by IUD and 3.4 per cent by other contraceptive methods.

Couples in reproductive age group

It would be proper to have a look into the profile of the married couples of reproductive age group to

identify the gap which need coverage. According to an estimate of Ministry of Health & F.W. 13.00 per cent have no children, 17.1 per cent have one child, 18.4 per cent two children and over 51 per cent couples are with three or more children.

By the end of March '84, there were about 123.1 million married couples in the reproductive age group in our country. The number of married couples of reproductive age group with varied number of children are estimated as :

With three or more children	(51 5 %)	63.7 million
With two children	(18.4%)	22.8 million
With one child	(17.1 %)	21.1 million
Without any child	(13 0%)	16 1 million

Childless couples may be divided into two groups i.e. sterile couples comprising about 10 per cent (12.3) million) and the rest i.e 3 per cent are newly married.

As per such an estimate there are about 12.3 million unfortunate couples who have no child. At present our government do not have any programme for this unfortunate group. Of course various gynaecologists are treating and helping such couples with success on their own To earn general goodwill the Family Welfare Department should take up some programme for the treatment of sterility cases. With small input, good programme can be organised with success and success stories can be published for the information of the general public.

Need to increase coverage

Rest about 3.8 million couples without children are newly married and should be given total coverage by various conventional types of contraceptives (mainly by condoms and pills). They should be encouraged to use condoms or pills to enjoy happy married life freely for 2 to 3 years.

63.7 million married couples within reproductive age group with three or more children are all suitable for adoption of sterilisation and should be educated properly by explaining the relevant details of various methods of different types of tubectomy and vasectomy so that they may not have any doubts about the after effects of these operations. As per estimate allowing the atrition factor about 23.7 per cent of the married couples of reproductive age groups have been covered by sterilisation which includes some couples with two children and some even with one child. Record shows that about 80 per cent of the sterilisation acceptors have three or more children. Hence it is estimated that about 18.9 million out of about 63.7 million couples with three or more children have already accepted sterilisation. This leaves about 44.8 million couples in this group to be motivated for acceptance of sterilisation. Target to cover by sterilisation per year upto 2000 AD varies from 4 to 8 million. So approximately 38 million of this group will have to be covered by I.U.D. or condom|pills.

About 22.8 million couples with two children are actually a borderline group suitable more for sterilisation but quite a number of them may not like to accept sterilisation at this stage and some of them may desire strongly for a third child. However, out of 22.8 million, if it is presumed, that about six million had already accepted sterilisation as per record, thus about 16.8 million couples remain to be motivated to accept either sterilisation, I.U.D. or condom|pill. It will be quite ambitious to motivate one or two million out of this group to accept sterilisation every year. The rest 14.8 million should be covered either by I.U.D. or condom|pills.

21.1 million couples with one child are to be covered by either I.U.D. or condom|pills. Though from the record it is observed that about 0.8 per cent of the total sterilisation acceptors are parents with one child, it would be desirable not to persuade one child couple to accept sterilisation as the 'infant mortality rate' of our country is still very high.

The above analysis shows that there are about 80.6 million (about 44.8 million couples with three or more children, 14.8 million with two children and 21.0 million with one child) married couples who should be persuaded to accept condom|pills or I.U.D. as a measure to limit their families. Motivational campaigns, social marketing and supply of condoms and pills through fair price shops, cooperatives, post offices and various hospital and dispensaries should be encouraged. Our capacity to persuade married couples to accept I.U.D. is limited. We have not been able to achieve even one million figure in any year earlier than 1982-83.

In 1982-83 and 1983-84, 1.07 million couples and 2.8 million respectively accepted the same. We shall have to change the unfavourable attitude of the lady doctors and other female para-medical staff towards I.U.D. We should take up programmes to cover about 3.5 million newly married and about thirty-five million couples with one or two children by either condom|pills. In addition to this a sizeable group of about 45 million of couples with 3 or more children are also to be covered by condom|pills| I.U.D. as they will not accept sterilisation. Taking the overall position in consideration it is estimated that efforts should be made to cover about eighty million couples by suitable programme of condom, pills and I.U.D.

So far enough coverage has not been given to the newly married couples and the couples with one or two children whereas this is a most important group of about 25 to 40 million couples with high fertility rates.

According to the estimates of the Department of Family Welfare there are about 10 million conventional contraceptive users. There may be another 5 million users who may be using contraceptive on

(Continued on Page 32)

Both can co-exist

Dr. O. P. Mahajan

The development of big industries should be so regulated and product mix so controlled and phased that the small labour intensive enterprises are not driven out of existence. The author calls for integrated development of the industrial structure.

ECONOMIC PLANNING WAS ADOPTED in India over three decades back with the aim of accelerating the pace of development consistent with the socio-economic objectives enshrined in the constitution. Massive investments have been made, far-reaching socio-economic and institutional changes introduced and a comprehensive regulatory mechanism embracing monetary, fiscal and physical controls developed within the framework of mixed economy. As a result, the pre-independence stagnation of the Indian economy has been shaken off, impressive increases have been recorded in national income and in agricultural and industrial production and a considerable degree of technological sophistication and self-reliance have been attained.

Judged by the historical experiences of the currently developed countries as well as the teachings of the growth economists like Rostow and Lewis we should be fast approaching the stage of self-sustaining growth. However, our achievements have fallen far short of our needs, resource potential and aspirations owing to faulty strategy and misplaced priorities of the Plans streaming from the obsessions of our elite with western goals of modernisation and development, value system and technology. The problems of mass poverty, unemployment, rampant inflation, inequality, economic inefficiency, conspicuous consumption and misdirected production and technological dualism have got accentuated over the years and are casting a dark shadow on the Seventh Five Year Plan.

The Seventh Plan must look far beyond five years and the narrow interests of the elitist sections camouflaged for long as the national interests and cry a halt to strategies that have led to the present grim situation if it is not to go the way of the earlier Plans.

Essential elements of the approach

Attempt at revamping of the planning strategy must begin with adoption of concepts and goals of development in keeping with our native value system, resource potential and social need. Growth of national income, modernisation, increase in industrial output, growth of exports, etc. are of little significance in themselves. They have to serve a higher social purpose—mitigation of poverty, removal of acute unemployment and underemployment, increase in the availability of goods and services of mass consumption and improvement in the quality of life. The development of different units of economy—states, regions|areas|cluster of villages—must be based on the principle of comparative advantage, instead of equating development|regional balance|rural-urban balance and all that with tht dispersal of large manufacturing industry and establishment of a few 'status symbols' like heavy and modern capital-intensive conspicuous-consumption goods industries as done hitherto. A few corollaries inevitably follow from this.

Engine of growth

Firstly, agriculture must be regarded as the 'engine of growth', and made the pivot of whole development effort instead of being relegated to the subservient role under which resources are to be squeezed out of it for industrialisation and urban development. It is not just a question of increasing financial investment. On rough calculations, financial outlay on agriculture and allied activities has not been much below the oft-repeated ideal of 40 per cent. An adequate effort means detailed, concrete and disaggregated but simple and lowly exercises as to what

the sectoral targets mean quantitatively and qualitatively in terms of the availbility of various strategic inputs not only at the state and district levels but also at the level of each farm. These down-to-earth exercises are too prosaic, cumbersome and, therefore, too unattractive to merit the interest, energy and time of the top-level sophisticated scientists, model builders, technologists, management experts, bureaucrats and statisticians.

Although their tribe has been increasing fast, this vital area has been neglected or left to men of lower calibre, training and motivation. Little wonder that some of the most crucial problems be-setting our agriculture—extensive deforestation and denudation of hills, acute and widespread degradation of environment accentuated by massive energy crisis affecting the rural and urban poor, the destruction of natural watersheds, salinity and water logging of land, periodic floods and droughts, siltation of tanks and reservoirs, the handicaps of dryland agriculture and semi-arid tropics-have continued to stare us in that face for want of adequate problem-oriented research and wide dissemination of the results of applied research and experience of progressive regions of the country. Millions of hectares of arable and forest land have been going waste every plan period, and other millions remaining unreclaimed.

Socio-economic conditions

Secondly, the socio-economic situation likely to prevail in the next two or three decades does not hold out any promise of large scale transfer of population from land to industry—the western solution to problem of overpopulation and unemployment. So jobs have to be created on the farm itself by promoting cottage and small industry in the rural areas, processing the agricultural produce and producing consumer goods for local needs. These industries must be supported by massive R & D effort to raise their productivity. Gradual introduction of sophisticated production patterns is to be attempted as the economic situation warrants.

Neglect of the small sector

This is not just a realistic reiteration of lip-service paid to cottage and small industry and the slogans like 'small is beautiful' in the earlier plan documents. It calls for a radical change in goals of development and plan strategy so that pride of place is no longer given to the easily measurable field of large industry—the large aggregates and their natural concomitants : giant multi-purpose dams and irrigation works, big technology and consequently big universities, IITs, glamorous research Institutes and Laboratories and now 'science cities' also, net works of luxury travel, five star hotels, luxury residential Bhavans and residential complexes and a host of service industries catering to conspicuous consumption of the elite. All these activities have gone too long under the widely accepted but ill-defined goal of modernisation as a concomitant of development and led to the neglect of small social and economic microcosms—the small and marginal farmers and craftsmen following lowly occupations. As a result technological gap has been widened and a dual economy created.

Lop-sided development

While solution to relatively simple problems of resourceless agriculturists, small handicraftsmen and village industries remains stalled for want of financial resources and trained manpower, there is no dearth of finance and scientific manpower to carry on 'fundamental' research in creating new wants and consumer demands, developing luxury house designs and styles, luxurious travel facilities, ultra-modern means of entertainment and liaison services for manipulating licences,, quotas, building contracts, tax dodging and touting, nor of enterprise in arranging their supplies Besides lakhs of enterprising and resourceful people are engaged in adulteration, smuggling, cornering of stocks, black marketing and a host of similar activities which contribute nothing to production of socially useful goods but constitute a mind-boggling part of the national product as conventionally measured.

The Seventh Plan must strike hard to prevent this colossal waste and channelise these vital resources—highly skilled, trained enterprising scientists, architects, finance and management experts, business executives etc.—to areas of genuine production in agriculture and industry irrespective of considerations of money cost-return. It must avoid the mistaken priorities of the earlier plans and stop devoting a lion's share of the research and technology outlay to the prestigious, but socially less useful, fields of research, which, in imitation of the advanced countries, attracts our best talent and brain and, it needs to be emphasised, in which it will be quite difficult to compete with the countries with billion-dollar budgets much less outshine them. In the field of research investment as in others our priorities must no longer be lop-sided and goals misconceived unrealistic and unrelated to our needs and resource potential as hitherto.

Need for integrated development

The foregoing argument should not be taken to mean that a ban on large scale capital intensive industry is being suggested here. Far from it, it is granted in the strategy proposed here that modern capital intensive techniques and production patterns will have to be used to develop heavy engineering, heavy electrical, metallurgical, chemical, fertilizer and other industries essential for national defence, modernisation of agriculture and other essential sectors Support of R and D for this sector has to be ensured so that the economy does not slip back into a state of primitive stagnation. The contention of the present article is that the development of these industries should be so regulated and product mix so controlled and phased that it does not drive the small labour-intensive enterprises out of existence; rather an integrated industrial structure needs to be developed.

An essential precondition for the success of this strategy is that strict control over product-mix in the industrial sector and effective demand management have to be imposed to curb the colossal waste involved in the production, consumption and import of goods and services of low social priority and thereby to subserve the social and economic ends of planning. It may be stressed that "the weakness in India's strategy has not been that the so-called heavy industries received too much emphasis but that the need to discriminate between the articles of consumption received too little attention." It is, however, not easy to impose these curbs, chiefly because over the decades several powerful vested interests of elitist consumers, producers, bureaucrats and their influential friends have developed in the production and availability of articles of conspicuous consumption. For one thing, an ever increasing number of consumers is bringing more and more of such goods within the pale of necessities which would have been dubbed as vulgar ostentation a few years back.

Conspicuous consumption

Apart from the social and political implications of the development strategy hither-to pursued, blind imitation of the western styles of development has caused stupendous waste of scarce resources and misdirected investment to sustain the living styles of the elitist sections of the community and, therefore, has tended to perpetuate poverty by preventing flow of resources in the production of socially useful goods and services. Worse still, it has sharpened the appetite of the masses who have begun to equate development with acquisition of articles of conspicuous consumption, non-availability of which is causing so much agony and frustration and is militating against honest labour. The dilemma facing the currently underdeveloped countries is that tigers having tasted human flesh once have become man-eaters. In such situation poverty is bound to be endemic since our nation, on reasonable calculations, simply cannot muster sufficient financial and physical resources to meet the basic needs of about 700 million people if articles of conspicuous consumption somehow continue to get considerable priority. Even the western countries are getting disillusioned with their styles of living, maintained for long by colonial exploitation in one form or another. The cost of such thoughtless growth is fast becoming prohibitive.

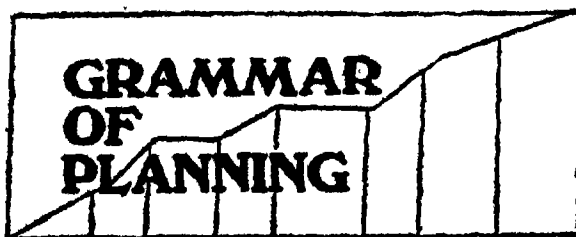
The farsighted among the planners, statesmen, bureaucrats and educationists in the country have sufficient appreciation of the red signal and preach virtues of austerity, indigenous styles and Gandhian ideology but the people in general have, both in thought and action, turned their back on Gandhi. Those who can afford, forego no opportunity of displaying luxury and consumption. In this situation there is general scorn of simple living. Production patterns, which are dubbed as primitive and reactionary obscurantism, therefore, are condemned as meriting no serious consideration.

But the crux of the question is how to bring about a luxury-free society so essential to carry out this approach to development in an open and free society in the face of strong internal and external pressures to the contrary.

Leadership on trial

In a totalitarian economy there is no difficulty since the state controls all investment and consumption decisions and hence the composition of national physical product, and also enforces isolation and austerity on the elite and the masses alike. The countries of Europe and North America in their transformation period were lucky in that consumerism had not emerged yet and the prevailing value system permitted single-minded attention to accumulation. In this connection Keynens' famous observations on capital accumulation in the 19th century Europe are very illuminating : "If the rich had spent their new wealth on their own enjoyments, the world would long ago have found such a regime intolerable," The currently under-developed countries are at a great disadvantage in this respect due to deep inroads of the demonstration effect of the western living styles and production patterns. It is a tragedy that the underdeveloped countries have missed the early phase of capitalism when luxury goods were yet to arrive, missed the vigour of the early phase of capitalism, but are allowing themselves to be victims of its degenerated later phase.

In India, e.g., no serious attention has been paid in the planning period to curb ostentation and to educate the people on the imperative need of austerity by example. There has been too much of double talk. People would simply not accept these curbs unless the dedicated leadership sets an example. Institutional changes have so far been of little avail. So the existing trends are most unlikely to be reversed under any market oriented, democratic system. And the alternative of a regimented economy is a 'totalitarian nightmare', totally unacceptable under the present value system obtaining in the country. Is it too much to expect that the democratic system would throw up a dedicated leadership at different levels to secure acceptance of a moratorium on production, import and consumption of luxury goods and thus steer the economy clear off the existing predicament through example rather than preaching and ensure a fair rate of modernisation without bringing in its trail all the costs that have gone with it under the free market system or the weak type of planning hither-to practised in India ? There is no use playing down the heavy odds, however.

Reluctance of a democratic state to use coercion and its preference for negotiations and consensus for the achievement of social and economic ends is understandable. But there is nothing inherent in a democratic state to justify its behaviour as a 'soft state' which has been the hall-mark of the Indian democracy, a misconception arising from lack of proper understanding of democratic processes and institutions. Democracy is not licence.

A Serialisation

P. R. Dubhashi

The project plannin

In the process of district planning (please see last issue), the local organisations like panchayats, block development boards, land development banks, lead banks, and district development councils have a definite role to play and must prepare development plans for their own areas of activity. In addition, the local government institutions and area public leaders have to pool their thinking and expertise to formulate sound and scientific development plans. Here in this chapter, the author dwells on project planning which is considered to be the final point of plan formulation and the first point of plan implementation. It is the vital link between planning and implementation.

THE DISAGGREGATION OF the national plan, whether sectorally or spatially, has ultimately to descend to an individual project in some particular field of economic activity. Project planning is, therefore, rightly described as the final point of plan formulation and the first point of plan implementation. It is the vital link between planning and implementation.

From an economic point of view a project represents the investment of a specific chunk of the scarce resources of the economy for the production of a flow of goods and services. Every such investment is a cost and a risk. But the cost becomes worthwhile and the risk becomes a calculated risk if the investment in the project is preceded by the formulation of a project report.

Project report is a comprehensive and systematic compilation of data, technical and economic, pertaining to the project so as to provide a rational basis f the assessment of the costs and benefits, advantag and disadvantages, which emanate from the speci dose of investment embodied in the project.

Economic experience of development planning underdeveloped countries has repeatedly shown hc in the absence of careful project planning, nation resources are wasted.

A project is embedded in an economic enviro ment. It does not exist in a vacuum. It is a radiati centre from which impulses flow to the rest of tl economy. At the same time, the success or otherwi of a project is itself influenced by the factors in tl economic environment. A project report has not onl therefore, to deal with the project per se but wi the economic relationship between the project ar the economic system.

Requisites of a project

The project report has to go through a number stages like identification, formulation, apprais supervision and evaluation. A project to succe must be intelligently identified scientifically form lated, competently appraised, efficiently implement and rigorously supervised if it is to pass the test a successful project.

A project could be identified either from t source or the destination. Thus, different types available natural resources would provide the sour of raw material for the projects and thus suggest t possibilities of setting up such a project. On the oth hand, the market should also provide indication the possible opportunities. A project may be a pa of either a sectoral complex or a geographical comple It may either be completely related to the domest economy or could be inspired by the export possibi ties. In any case, once a possibility suggests itse the project could be identified tentatively.

Then follows the need for a pre-investment surv on the basis of which preliminary project report h to be prepared indicating various possible alternativ The preliminary project report thus enables tl

selection of the final choice of the project. After the choice is made, the stage for a detailed project (DPR) report is set. The detailed project report has to consist of three parts—project engineering, project economics and project organisation.

Project engineering includes the details of the production process, plants and machinery, site and buildings, schedule of construction of building and erection of machinery and supplementary works, like water supply and electricity.

Project economics

Project economics begins with the market analysis or demand analysis. Indeed, identification of demand and market is the starting point of project planning. Demand is the function of income and price. At the prevailing price, some part of the demand might be unfulfilled. It is the unfulfilled demand that has to be met by the new project.

The data regarding the market analysis has to be based on the information made available by the surveys both of facts, attitudes and opinions and consumer scales of preferences. The time series of the past could be projected in future by extrapolation. However, this cannot be done blindly since the future picture might be different from the past. There might be changes in population, income, scale of preference, elasticity of demand as a result of various external factors. These must be taken into account in forecasting the furture demand for goods or services which the new enterprise seeks to provide.

If the market survey establishes an adequate demand for the product of the new project then comes the question of determination of size and location. The size has to be limited to size of the unfulfilled demand. However, if the unfulfilled demand is less than the minimum technical size, the project cannot be established. If however, the unfulfilled demand is much greater than the technically feasible size, then a choice has to be made as between the alternative sizes of plant and machinery. The economics of various sizes has to be studied and the optimum size has to be located.

Location

As regards locations certain technical considerations have to be taken into account like the availability of water or electricity or minimum administrative and postal facilities. However, if these basic factors are available, the choice regarding location has to be governed by consideration of an optimum location. In deciding this, the cost of transport of raw material has to be weighed against the cost of sale of finished products. Some enterprises have to be near the place of the production of raw material. If the raw materials are bulky or costly to transport or are of perishable nature, or lose in value in transport, like sugarcane, the location has to be near the place of production of raw material. On the other hand, some other projects are governed by the advantages of marketing the finished products and tend to be located at big consumer centres in big towns and cities. In determining the optimum, the size and location benefits are to be weighed against costs and that choice has to be made where b|c or b-c is the maximum.

Capital input

The next item in project economics is the assessment of investment—fixed and working capital. The fixed capital consists of plants, machinery, building, etc., while the varying costs consist of the cost of material, labour, fuel charges, water charges, rent, etc. Administrative overheads will have to be considered as fixed costs.

Then comes the need for preparing the project budget for the entire project period showing for every year additional costs and additional benefits from the project. In the initial years, the additional cost may exceed additional benefits. But if over the entire project period benefits exceed the cost the project may be economical. One formula to determine whether economy of the project is sound, is to arrive at the present capitalised value of the flow of goods and services. If this exceeds the project investment, the project may be economically worthwhile.

The last item in project economics is the determination of the source of finance for meeting both the capital cost and the varying costs. Some part of the capital is owned while the rest is borrowed. Every enterprise must have a proper debt-equity ratio. If the debts are excessive and high interest rates on them have to be paid, the project may not be worthwhile.

Management

The third part of the project report is regarding organisation and management. The organisation may be in the public sector, private sector or the cooperative sector. It has to have an adequate body of membership or share-holders. Its management structure has to be sound. It must have the necessary technical accounting and managerial staff who should be properly qualified. The procedure of recruitment and the structure of salaries and other allowances has to be worked out. An organisational chart, a manpower plan and a job chart has to be prepared.

The above-mentioned is only a general outline of the project report. But a project report has to be tailor-made and has to meet the unique requirement of every enterprise.

If a shelf of economically sound and technically feasible projects is kept ready, it would be possible to fill up the details of the framework of a general investment plan. Without project reports, a plan merely in terms of investment cannot be operational.

(Next issue : The substance of planning)

Increasing the food production

(Continued from page 24)

Government should find resources to raise this subsidy during the Seventh Plan in order to supply to farmers (particularly marginal and small ones) fertilizers at highly subsidised rates. This is an imperative necessity in the context that many countries subsidise chemical fertilisers very heavily to promote their intensive application by farmers and thereby encourage the wider application of high yielding varieties requiring such intensive application. Simultaneously, efficiency in the production of fertilizers is also to be geared up.

Along with the application of fertilizers as discussed above, high yielding varieties of quality seeds are also to be sown in all the areas where the fertilizers are used. There may be a need to supply seeds at subsidised rates in a big way to encourage the small and marginal farmers to use these seeds. Crops insurance schemes are also to be introduced urgently to cover the risks of farmers who would be using fertilisers and seeds in rain fed areas.

If these measures are successfully adopted, we can expect an increase of 45 million tonnes of these food grains over the level of 1978-79. These measures generally would not require additional investments on irrigation.

Conclusion

The paper points out the limitations of various measures for increasing the food production. For example, in areas where irrigation is available but only local varieties of seeds are sown, if we sow high yielding varieties of seeds along with fertilizers, we can expect an increment of the order of only 11.5 million tonnes. Even in an ideal situation when the entire cultivated area is provided with irrigation and also high yielding varieties of seeds and fertilizers are used, we can get an increment of only 94 million tonnes. This measure will, however, require huge investments in irrigation.

Our immediate aim, however, should be to achieve the increment of 45 million tonnes during the Seventh Plan by adopting the measures, as discussed in Section 3, which do not envisage huge investments on irrigation. Side by side, investments on irrigation projects should also be made within overall constraints in plan resources since this would help in not only converting unirrigated areas into irrigated ones but in also increasing the cropping intensity which is only 1.2 at present.

Extensive application of technology has to come to our rescue if large scale increments in food production are to be achieved. ☐

The battle of numbers

(Continued from page 26)

their own even then vast majority of the fertile group of couples remain uncovered. There seems to be no programme to cover this vast group of fertlie couples in near future even upto 2000 AD as the highest annual target recommended by the 'Working Group on Population Policy' on conventional contraceptive, is only 12.1 million in the 'low priority sterilisation' group and this has been accepted by the Government of India.

It will be too much optimistic to presume that the sterilisation target will be achieved every year upto 2000AD. Hence this type of programme will not bear fruit ultimately and it will not be possible to bring down the birth rate to 21 per thousand by 2000 AD, only by sterilisation programme. Majority of the developed countries have brought down the birth rate by late marriages and using conventional contraceptives including oral pills. Hence the target to cover married couples by conventional contraceptives will have to be increased accordingly and different programmes for the same should be introduced Otherwise target of reaching reduced Reproduction Rate by 2000 AD will remain a dream. Well designed programme will have to be introduced to increase the availability of oral pills and condoms in rural and urban areas. ☐

The 'scheming' fisher women of Pondy

THE FISHER WOMEN of Pondicherry never had it so bad. They undercut each other. They had no regular place to sell their fish.

Now, things have changed. They never had it so good. They sell their wares in an organised market. No one underouts another.

It all began the day when a hundred of them marched to the local United Commercial Bank and sought the advice of the Branch Manager. He advised them to pursue their traditional occupation, selling fish. But he told them that by organising themselves properly, they could make more, doing the same work. He wanted them to keep the fish clean and not to undercut each other. He promised them loans ranging between Rs. 300 and Rs. 500 to get ready to begin a new by buying baskets, ice and balance to ply their trade.

The fisherwomen did as they were told. They began buying fish wholesale. None would sell below a fixed retail price, and they now have got a clean and spacious area in Chinna Market to sell fish. Since they do not compete with each other their earnings almost doubled. On an average, they make around Rs. 20 a day. ☐

Implementing IRDP
A challenge

Gyanendra Sharma and K.C. Tyagi

IRDP, started six years ago, has been extended to all the development blocks in the country. A large amount has been provided in the form of loans and subsidies to improve the lot of the rural poor. The author points out that due to faults in identification of the beneficiaries and lack of credit supervision, the programme has not produced the desired results.

THE INTEGRATED RURAL DEVELOPMENT PROGRAMME is being implemented through a net work of District Rural Development Agencies (DRDAs) in every state. The DRDAs were created in all states to implement the major rural oriented programme through these agencies. On 2nd October 1980, when IRDP was extended to all the 5011 development blocks of the country, the task to implement this programme was assigned to the DRDAs.

The DRDA in a district implements several schemes for the benefit of the rural poor. Notable among these are milch cattle (buffaloes and crossbred), piggery, mule cart, TRYSEM, farm forestry, bio-gas etc. Each DRDA under the new pattern is headed by the Chairman (Deputy Commissioner of District) followed by the Chief Executive Officer (Addl. Deputy Commissioner) and they are assisted by a team of Assistant Project Officer (APOs) in various fields. The category of rural poor who get benefit through DRDA are landless agricultural labourers, small and marginal farmers, artisans and all those who are living below poverty line.

People below poverty line are identified based on the criteria—a family of five persons earning annual income of Rs. 3500 or less.

The main efforts of DRDA are directed towards the upliftment of the rural poor, by way of increasing income and providing infrastructure. The Governnment is spending crores of rupees in the form of loan, subsidy and providing infrastructure to the rural poor. How far this amount has been utilised in the real upliftment of the poor ? Now, it is high time to assess our performance in various fields of rural development. Not going into details of all the aspects of IRDP implementation,, the paper lays emphasis on two aspects i.e. identification of beneficiaries and credit supervision

Identification of beneficiaries

Commenting upon the procedure followed for indentification of rural poor, a PEO report states that . The work of identification by and large was not done with the thoroughness it deserved. Mostly Patwaris or VLWs are entrusted with the task and they generally considered it to be yet another addition to their enormous assignments and, therefore, many of them did not or could not devote the required attention The report further brings out the wilful concealment of the size of land holding by large farmers in order to avail benefits. Many big landlords transferred their lands to their sons and got them identified as small farmers. It will not be out of place to relate these findings in the present context.

Based on the household survey the rural poor are identified and application forms are filled by DRDA officials in organised identification camps. A very serious problem being faced in these camps is a biased selection. In a few villages, where the Sarpanch, landlord want a special section of people to benefit, the genuine poor are left. This has been revealed in a research study on the implementation of IRDP in Karnal district.

There is no one to speak for the genuine poor who are overlooked How will this lead us to alleviate poverty ? Are't we drifting away from the scheduled path ? We have to answer these questions and simultaneously rectify our mistakes.

In case of milch cattle scheme, the beneficiary has to produce the buffalo|crossbred cattle, he intends to purchase alongwith the seller in organised purchase camps. A team comprising bank officer, Veterinary Doctor, BDO, Sarpanch are present to supervise the camps. There have been instances when a beneficiary has not really purchased the buffalo. He just hired the same from some colleague whom he paid some gratification. This happens when a team of 5—6 officials are there to supervise. The beneficiary gets the net Rs. 2000 (if loan amount is Rs. 3000) in his pocket without any investment. He does not bother about the subsidy amount of Rs. 1000 which in a few cases goes to the functionaries who pass such shady deals. Such practice reflect the lack of sincerity and dedication on the part of officials. Today, the beneficiaries are really smart, they are no more innocent. They think that the loan|subsidy amount is nothing but money which can be earned without spendig anything.

A very wrong concept of IRDP is developing. The very aim of the programme is being defeated. This poses a great challenge to our administrators to review the implementation of IRDP at national level.

Credit supervision

The lynch pin of the benefit oriented programme has been to arrange credit from financial institutions including commercial banks to enable them to identify families which command real resources. A few evaluation studies reveal that ineligible poor through fraudulent practices get benefits. The result is that they turn into wilful defaulters. The local political activists also advise them not to repay. This has given rise to a number of irregularities in the scheme implementation. As a result, the proportion of defaulters have gone up above 60 per cent in most of the States. This is how a wrong selection of beneficiary creates numerous problems.

To overcome this, one way of reducing the overdues is to link future assistance with repayment performance and to allow interest subsidy to non-defaulters. Similarly, assistance in kind and proper identification of beneficiaries and ensuring the utilisation of the assistance for the declared purpose through continuous monitoring will help in increasing the repayment.

Lack of sincerity

IRDP was geared into action six years ago and has been extended to all the 5011 development blocks of the country. Though we do not expect any spectacular results certainly a ray of hope should have been visible by now. But it is missing. Our planners are moving ahead with higher targets in every subsequent plans But are these increased financial targets going to bring improvements in the qualitative aspect of beneficiaries. Certainly not. In view of this, isn't this time to give emphasis on proper training of officials to enthuse them with a sense of sincerity and dedication.

Thus, the educational component deserves : mention in this regard. To accomplish this, it is h time that policy makers devised some linkage mec nism to utilise the facilities of existing educational, search and other such organisations in the area achieve objectives of the programme. Rather DRI needs to be given such liberty to explore the possi lities of creating healthy linkages with the vari agencies for the benefit of the programme. Accordin policy makers may issue policy decisions at natio level so that such linkages gets more strengthened

Revitalizing DRDA

In view of the present problems in implementi IRDP, authors suggest a linkage mechanism to vitalise the project implementation through DRD

"DRDA occupies a top position in the sugges linkages. In the present set up the organisations s as commercial banks, ICDP, Block and Insura companies have an important role in materialising t benefits for the rural poor. DRDA acts as a coor nating agency to provide loans to beneficiar ICDP though does not have defined linkage, provi technical followup services. Block office assists DRI in identification of beneficiaries by conducting hou hold surveys and Insurance officials provide a syst for the security of the benefit provided to the ru poor

In order to function in an integrated manner, DRI requires a series of linkages with various gove mental and non-governmental organisations as well with research institutions dealing with related iss of development. Attempts have to be made throu such vertical and horizontal linkages to bring in t necessary supplies and services that the commun cannot provide for itself. It also requires educatio and communication efforts to help local people to the relevance of the schemes to their own needs, obtain local support, to encourage people's parti pation and to initiate and help develop local orga sations.

All these could be acheived by educating the ben ciaries about the role of each department and motivating them to be sincere while utilising the s vice of these department. Then only we can hope succeed in providing the benefits which will re contribute to the increase in income of the beneficia This educational role can be performed by Extent Education departments of ICAR institutes, agric tural universities, Krishi Vigyan Kendras, Kri Gyan Kendras etc.

If we define these linkages as suggested, in pro perspective and then gear these into action, we c certainly hope to revitalize the implementation IRDP by giving DRDA a more broader look and g ing recognition with regard to the coordinating role

Gold mining in India

Gold mining in India is carried out only by Bharat Gold Mines Limited (BGML), a Government of India Undertaking.

Between April 1983 and January 1984, BGML produced 936 kgs. of gold.

Gold production in 1983-84 is expected to be 1200 kgs. In 1982-83 it was 1369 kgs

A new mine, at Yappamanna in Anantapur District in Andhra Pradesh, was commissioned recently It is expected to produce 191 kgs. of gold in its first year.

As the old gold mines like Kolar are nearing total depletion, the BGML is diversifying its operations and producing mining machinery, drilling rods etc. for other mining companies.

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Steady expansion of national highways

THE TOTAL LENGTH of the National Highways in the country has risen from 21,440 kms. as on April 1, 1947, to 31,398 kms as on March 31, 1984. The number of the National Highways has also increased from 37 to 64

During the 1947-51 period, two roads were added to the system with an over-all length of 815 kms. Four more roads comprising 1,514 kms. were added in the Second Five Year Plan. As such, in early sixties the National Highways network stretched to 23,469 kms. The Fourth Five Year Plan (1969—74) accounted for a quantum jump in the National Highways system when 11 roads aggregating a total length of 4,819 kms. were included in the system taking the total length of National Highways to 28,819 kms.

There were only marginal additions in the First, Third and Fifth Five Year Plan periods and in the interregnum period. However, the Sixth Plan gave another boost to the National Highways when seven more roads with a total length of 2,375 kms. were added.

The funds for the preservation and proper upkeep of the National Highways are provided by the Union Ministry of Shipping and Transport. Although there is persistent demand for inclusion of various road networks to the National High-ways system, it has not been possible to accelerate the pace of developmental acti-vities on National Highways due to paucity of Plan resources.

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Rising population and environmental degradation

yojana

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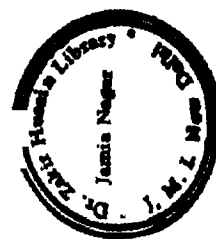
Growth sans justice

NEXT ISSUE

Public sector : a different angle

Jobs for the rural unemployed

AN AMOUNT OF Rs. 230 crores has been earmarked as Central allocation under the National Rural Employment Programme (NREP) for the year 1984-85 The State and Union Territory Governments have to provide an equal amount as their matching contribution under this programme. Employment generation target of 309 129 million mandays has been fixed under the NREP for the current year and the target is likely to be achieved.

In the case of the Rural Landless Employment Guarantee Programme (RLEGP) an amount of Rs. 500 crores has been earmarked for this programme and employment generation target of 300 million mandays has been fixed.

The NREP and RLEGP are the two major programmes for providing wage employment in the rural areas. While the former envisages generation of additional employment opportunities for the rural unemployed and under-employed, including the landless, the RLEGP has the objective of improving and expanding employment opportunities for the rural landless with a view to providing guarantee of employment to at least one member of every landless labourer household upto 100 days in a year.

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Our Contributors

Ashok Mitra, an eminent demographer and administrator New Delhi; **N. P. Singh**, Secretary (TPIC), Cabinet Secretariat, New Delhi; **S. R. Chirmade**, Professor of Business Economics, M. J. College, Jalgaon; **Vasant** Sathe, Union Minister of Chemicals and Fertilizers, New Delhi; **P. R. Dubhashi**, Director, Indian Institute of Public Administration, New Delhi; **Dr. Rakesh Tandon**, Associate Professor, Deptt. of Gastro-enterology, All India Institute of Medical Sciences, New Delhi; **Navin Chandra Joshi**, Reader, Motilal Nehru College, New Delhi; and **R. P. Rahi**, Freelance Journalist, New Delhi.

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Rising population and environmental degradation

Ashok

Unless demographic growth is contained, environmental control is bound to prove a longer and more dubious haul than it does now. As population growth can be effectively checked when people are brought up well enough to want fewer children, environmental degradation can be stopped by helping people to appreciate through various improvements in level of living to want to conserve their perishable resources and promote renewable resources, says the eminent demographer and administrator.

IT HAS ALWAYS BEEN THERE: the menace of environmental degradation in India. Only until about half a century ago, it enjoyed low visibility. Visibility has been growing, especially in the last thirty years. It looms so large now that it threatens to overshadow and even destroy much healthy growth, unless it is cut down to size by determined national effort. Unfortunately, signs of this determination are far from propitious.

Several factors have contributed in large measure to this mounting and ominous visibility. As a demographer, I would naturally put rapid and accelerating population growth since 1921, more so since 1951, as a prime reason. The other major reasons may be divided into positive and negative categories, to either of which population growth is common. I shall call one group positive because although the c this group are still largely deleterious, they mostly turned around with wise manipu environmental improvement. But the other I shall call negative, have no such redeeming and, if allowed to thrive, will present ı obstacles. Although population has started negatively at the present frightening leve million, it still hovers more on the side of a factor than a negative one. But that adv getting exhausted.

Among the positive factors one must me giant strides—in contrast to the small halt that had been taken before 1951—towards growth and development in terms of agricul industry. These provided the means of g well as those of curbing environmental deg It is, however, another matter that we hav precious little use of the power that this gr placed in our hands. The other positive f which we have made practically no use ei the acquisition of immense scientific and tech knowledge and skills and the rapid expansio development infrastructure in all its variec in rural and urban areas.

These positive factors which I have comp a very few in number, but which naturally a complex network of hundreds of other f our credit, have given us the means of contai even reducing environmental degradation, if so minded.

Negative

There are some negative factors which a case of the positive ones, subsume an equally network of other factors, which are operatin conservation. The first is the growing e income inequalities, the upward swing of th

Based on excerpts from a Silver Jubilee address delivered recently at the Institute of Economic Growth, Delhi.

ties, the inordinately heavy concentration of wealth and privilege among a very small proportion of the population. With this goes the denial of access to and utilisation of social and distributive justice, not only to the vast majority of the population but also to extensive geographical regions and tracts of our country. The effect of these inequalities and denial of distributive justice has bred indifference and even hostility to efforts at conservation. The question that looms large with the vast majority of our deprived population, who live largely without aspiration, without hope for themselves and their children, is conservation for whom and why.

The second major negative factor is our illiteracy, and lack of education, nonformal as well as formal which keep all knowledge and desire for environmental improvement, and simple collective effort towards achieving it, out of the reach of the majority of our population. As a result they know no better than what they are made to suffer from, regarding the latter as inevitable as the ways of God. The ill effects of illiteracy and lack of education are most manifest in our approach to both agriculture and industry, in our attitude towards and awareness of the biosphere, water, air, sound, soil, minerals and human settlements. They are reflected most of all in our lack of awareness and demand as well as low utilization of whatever social and community services we are entitled to.

The third is our lack of employment and shelter which deprive us of basic self-respect, desire to improve and of the means of fending for ourselves. This reinforces our indifference and even destrictive passion towards our environment. A fourth and formidable negative factor is the lack of a national policy for domestic or non-commercial fuel which, joining hands with rapid population growth, is driving
The third is our lack of employment and shelter which deprive us of basic self-respect, desire to improve and of the means of fending for

Poverty of human community

It thus stands eminently to reason that if we proceeded to traverse the geographic regions of our country from one end to the other by systematically filling up our matrix of positive and negative endowments as spelled out above, we would find that the incidence of environmental degradation falls progressively heavily precisely on those geographical tracts where the negative factors increasingly reinforce the positive factors we have discussed. In short, environmental degradation will be seen to grow in direct proportion to the poverty of a human community and its natural and economic resource and endowments in a given geographical tract.

One has only to recall the absolute increase in India's population since 1921 to be dramatically aware of the problems that such growth can create. From a mere 251 million in 1921, the population in a matter of 60 years, grew to 685 million in 1981. The absolute growth was two and a half times on the 1921 base. The average density of population per square km. increased from 81 in 1921 to 216 in 1981. In other words, in place of 81 sources of possible pollution per square km. in 1921, we had as many as 216 of them in 1981. This is the first and weightiest fact to be borne in mind when talking of our environment. The full implications are difficult to encompass.

This statistic of averages, however, conceals more than it reveals of a enormity of what has been happening. First, if you leave out all the waste and uninhabitable land—desert, forest, mountains, riverbeds, marshes, etc.,—the average incidence per unit of human settlement of all kinds has perhaps exceeded 400 persons per square km. already.

Secondly, especially since 1946 there have been extensive reshuffling of whole populations and communities among various parts of pre-1947 India, part of which process later came to be interpreted as international migration. These movements disturbed the quantity and quality of populations of a large number of regions quite substantially and still further accentuated inequalities and added to environmental deterioration of the poorer areas by disturbing age-old set livelihoods and therefore ecology. This happened, oddly enough as it may seem, in some sparsely populated areas even more severely than in some of most populous cities.

Poorer areas suffer more

My purpose here is to illustrate how the positive and negative factors that I have spoken of combine to make the poorer economic areas of limited resources and relatively sparse populations more vulnerable in real terms to environmental degradation than even the densely populated industry infested cities, and to argue how the former areas, enjoying apparently low visibility, are threatened even more than the latter where visibility is obviously very high.

It is important at the outset to shed an obvious urban middle class mental block to be able to perceive the worth of my argument. When we go out of a metropolis to a smaller city or a village, we are obviously forcefully struck by the low, even non-existent, air and noise pollution. But few of us land ourselves in the squalors of the very poor and congested settlements of the places we visit or share their lives.

By the same token you will agree there is no pollution in Blevedere or the Zoolgical Gardens in Calcutta or Chanakyapuri in Delhi or Adyar in Madras where we can live a life-time in complete oblivious of the pollution of Tangra of Calcutta or Sadar Bazar of Delhi or the Cavum of Madras.

Let us deal with metropolitan, industrial and urban pollution first. Compared to any threatened rural area, the resources at the disposal of Bombay or Calcutta, Kanpur or Durgapur, where pollution and degradation enjoy the highest visibility are incomparably larger. What most of the heavily polluted metropolitan and urban areas and their drainage channels and rivers lack is determination, enforcement and organisation of laws and administration that already exist or can be fortified.

The problem of environmental degradation in the cities is still within our power to tackle. None of our cities are even now in any greatly worse state than the British cities as I saw them around 1940 But environmental degradation in the rural and poorer regions of India is rapidly getting intractable because their renewable and non-renewable resources are fast dwindling to the point of no return.

Investigations and surveys

While this goes on a pace on the one hand, there has been an explosion in the last thirty years of investigation, systematic recording and faithful mapping of what plagues the country in its various regions and tracts. First must be mentioned the microsurveys, the work of researchers who have brought a new vigour and analytical approach, in contrast to the old synoptic one, aided by the computer, which enables a scholar to look at a problem in a hundred ways.

Second, there has been fresh comprehensive analysis of secondary time series, data, like the population, agricultural, livestock, housing, organised and unorganised industry censuses along with the census of manufacturing industries and the annual survey of industry series. Third has been the very imaginatively conceived National Sample Survey, the like of which few countries can boast of.

Fourth has been the various State reports on specific problems and reports of the all-India Industrial and Financial Institutions. I have mentioned only a few sources to illustrate the wealth of material that is available to a policy-maker and administrator concerned with environment.

One may argue that there are scattered and much too comprehensive material to be handled by the lone researcher or at the comprehensive level by any but a very large interdisciplinary team of researchers working with the help of sophisticated computers. In answer to this charge one must immediately mention the various Commission and Committee reports which present material in ideal analytical, taxonomic, yet comprehensive compendium form. Authority therefore, if it wishes to act, cannot very well hide under the excuse of lack of information.

Pressure on land

Much water has flown under the bridges since Karl Marx wrote about the idyllic village community in India's hydraulic civilization, splitting and reproducing itself like an amoeba on virgin or fallow land whenever a community strained its hydraulic resources in the older site. Population has so grown since his time that there is literally no room to turn in India. Not only have all the fallow lands been brought under the tireless plough but even uncultivable, badly eroded or leached land has been upturned, forest cover denuded, river beds sown and choked, the soil made to yield to the point where it can yield no more,its quality irreparably damaged in numerous tracts by the thoughtless use of artificial fertilizers.

The demands of infrastructures and industry again have led, on the one hand, to much interference with natural drainage and to increase in salinity, alkalinity and acidity and consequent increase in malaria and other diseases, and on the other to much deterioration of the soil through mining, criminal felling of forests, indiscriminate quarrying, proliferation of brickfields like ugly pockmarks throughout the land, and the desecration of urban fringes by rapacious profit seekers and land hungry suburban dwellers.

Rise in population

Both in agriculture and industry the demand that has grown in the last fifty years may be divided into two broad categories, compounding destructive challenges to the environment. The first category centres on demographic growth and the sheer survival of the added numbers. This has led to the most insidious, protean and clandestine forms of environmental degradation of the soil, of misuse and overuse of the water resources, old and freshly created, of subinfeudation to limits that defy all attempts at conservation, because at those levels of subinfeudation, individual minifundia resources are abjectly inadequate to the task.

Every State authority and spokesman talks of land reforms as the panacea, of lending power to the elbow of minifundia cooperatives by way of organisation in raising nurturing and marketing of crops and securing water and regenerating the soil, but does precious little, not only because the problem is extremely tough and demands herculean determination and persistence, but also because the peasantry has been kept in illiteracy and ignorance and therefore debarred from direct access to the new knowledge and technology.

A dishotomous process is in operation on the soil and agriculture. Anyone who owns 10 acres or more can now in some measure invest the capital and command the know-how to conserve the soil and get more out of it. Not so with the minifundia, particularly those with less than a hectare, who must tax the soil to the utmost to get the most out of it to cope with the demographic growth of his family. As a result along the same hedgerow as it were in the same village, we find fields with soils well conserved and managed alongside of fields where the top soil is going, going, gone with excessive exploitation.

Apart from the perpetual conflict between the social and economic classes within a village, there is a constant see-saw, relying upon differential demographic growth to maintain numerical majority so vital for physical survival of a group. The other perpetual seesaws are the advantages gained by those with land and the sudden elevation in status and class of those who have received *pattas* of land, however little, and their self-alienation from those still landless who had so long been their allies; the use of power by the rich to the disadvantage of the poor; the changing fortunes of families so as one gains, another looses, often expressed in the exchange of land; the constant struggle for survival by the poor and their determination and energy, in spite of which

they grow differentially poorer and poorer and their land poorer and poorer still.

Demands on forests

Nowhere is this more starkly manifest than in the tribal and forest regions, be they in Assam or Manipur, West Bengal or Bihar. Orissa or Madhya Pradesh, Maharashtra or Karnataka, Himachal Pradesh or Uttarkhand. The demands of population growth on domestic fuel and other essential articles of daily use coupled with the demands of industry and the urban areas for commercial timber, have led not only to ruthless destruction of forests, but grievous soil erosion, landslides, devastating floods, yearly growing in the dimension and extent, desertification and the uprooting of millions of tribal populations.

Several things are simultaneously at work to intensify what for me is the most tragic and irreparable aspect of environmental degradation : greed of governments to reap windfall revenues by felling forests and selling the timber; the rapacity of forest contractors; the demands of domestic fuel and wood pulp based industries which insist on fast growing pulp timbers which are soil denuding in preference to other economic and beneficial varieties, the denial of livelihood by way of forest produce and wild life to tribal populations grievous landslides, leeching, erosion on account of denudation of forest, moss and grass cover; and, finally lack of staying power and tribal populations and their inability to undertake forest regeneration on their own.

Industry and manufacture strike at environment in three ways. First, by the pollution that they directly engender. Secondly, by the congestion and concentration of enterprise of various kinds each one of which generates more pollution, unless taken care of. Thirdly, by leaving scars on the countryside from which their raw materials, whether renewable or non-renewable, are extracted.

A thumbnail sketch

I do not propose here to take you round India as I know it. But it might be pertinent to attempt a thumb-nail sketch of how the positive and negative factors I have spoken of make up West Bengal's problems of ecology and environment. Looking out my little window of the State Land Use Board, I would suggest the following regions in the truncated cosmos of West Bengal. That cosmos somehow reflects roughly what we find in India as a whole.

Starting from the north we have the sub-Himalayan region from 12,000 ft. down to about 400 ft. where we have grave problems of deforestation, landslides, gully and sheet erosion compounded by the problems of a burgeoning population and new types of infrastructure and sudden increase in the demand for domestic fuel.

Below it we have the Terai region running down to the Ganga-Brahmaputra alluvium, with the high Barind thrown in. Here the problem of wide debouching rivers, often changing their courses, plus deforestation on a large scale, has created problems comparable to those of Gandak and Kosi further west.

On top has been the frightening expansion of urban Siliguri southwards and eastwards, the problems of extensive mining and quarrying, the scarcity of domestic fuel and the need of curing the acid soil with dolomite. It is too early to say how the Teesta Project is going to stabilize the region's ecology.

Then we come to the east of the Bhagirathi from the Padma down to Kalyani where the chief problem is water management and encroachment of human settlements. In each of these regions the problems are densely packed with poverty and illiteracy except in the Siliguri urban tract.

To the west of the Bhagirathi, we have the red laterite area starting from Rajmahal down to as low as Jhargram in Midnapur including almost all of Purulia on the west which has its own problems of poor and illiterate tribal populations being inexorably pushed to the wall, weeping deforestation, along with spawning of minifundia compounded by heavily eroded laterite gullies and ravines.

It is only the Ajay basin of Birbhum, the district of Burdwan, part of Bishnupur sub-division of Bankura and Hooghly and Howrah, north of the Mundeswari which still present a picture of comparative stability and balance, although even these tracts are heavily scarred by brickfields, sand quarries and indiscriminate industrial use. The rest of the district of Howrah, the eastern and southern sub-divisions of Midnapur forming another region again, have heavy problems of salinity, waterlogging, industrial effluents and floods, complicated by encroachments of urban settlements and new industries.

Crossing the Hooghly eastward, while north 24-Paraganas are piling up problems of urban pollution, rise in subsoil water, problems of drainage, brickfields and indiscriminate encroachments of urban settlements, south 24-parganas' problems are still very much as they were about a hundred years ago. They are multiple : saline and flood-prone tracts, the conflicting claims of crop cultivation and fisheries, the onward march of East Calcutta which threatens to swallow the otherwise gold mine of the wetlands, sewage fisheries and truck gardening.

Growth of agriculture

In each of these regions the major problem still is how to secure steady growth of agriculture and agriculture productivity, diversify it with non-seasonal and non-traditional crops that will enrich and optimise the mix of agricultural products, extend knowledge of fertilizer use and water management and support larger populations per unit of soil. The enormity of the problem is underlined by the fact that most of the positive and negative factors that I have mentioned have very high incidences in our state and the problem is getting worse than better. I shall mention only one symptom of this deterioration which will speak for the rest. The proportion of land under forests to West Bengal's total surface area was around

12 per cent twenty years ago. The latest satellite images suggest it has shrunk to a little over seven per cent in 1983.

Perhaps because environmental degradation is the newest boy to be officially recognised in the list of global concerns, enthusiastic scientists, management specialists, engineers armed with their respective technologies have eagerly seized upon it as their monopoly. What I am at pains to plead is that it would be idle to imagine that they alone can lick the problem although one must hasten to add that they will surely be the most visible actors in the field. But if I have succeeded in bringing out the relevance and importance of my positive and negative factors, there will be little difficulty in realising that much more is involved than management, science, engineering or technology.

Demographic growth of development

Environmental degradation is at the very centre of interaction between demographic growth and economic development, between man and what he consumes and produces; because whatever contributes to greater production and productivity and distribution has an inbuilt negative aspect of environmental degradation to it. These aspects can be taken care of only when the positive and negative factors I have mentioned are tackled simultaneously with the utmost circumspection.

Interest in environment and effective conservation—as opposed to the present thoughtless, unconscious apathy, even deliberate hostility to it—can grow only when a certain measure of education and well-being and equity in distribution and consumption have been achieved, gross regional imbalance removed and people, particularly in the more economically backward areas, are enabled to nurture the right kind of hope for the future—the hope of having a share and stake in environmental conservation. To the vast bulk of our illiterate population, especially those below the poverty line, all hope is still but hope of the wrong thing and therefore ruefully shunned.

The problem of environment is again compounded by the ever increasing pace of rural to urban, urban to urban, and rural to rural migration, both short and long term. This problem is even more accentuated by the vast scale of very short duration, seasonal migrations especially to the slums of the city and their cyclical concentration in those districts which are among the most poorly endowed by way of natural and land resources and easily account for more than a third of the entire land space of India.

Nowhere is the evil conjunction of the positive and negative factors more visible in all its fury than in the extensive forest-cum-tribal population tracts, whether on the plains or in the hills, where the lack of a national non-commercial domestic fuel policy, coupled with the demands of cultivation, industry, housing and population growth, has led to extremes of environmental degradation and regional poverty through denudation of forest cover.

It is no difficult matter to make out how, without a much more literate population and a palpable measure of equity in consumption and employment, distributive justice and access to social welfare and security and removal of regional disparities, demographic growth itself—one of the prime reasons of environmental degradation—can be halted at an acceptable limit. And unless demographic growth is contained, environmental control is bound to prove a longer and more dubious haul than it does now.

The burden of my song, as can be guessed, is simple enough. Just as the growth of population cannot be checked by prescription, enforcement, contraceptive technology or extension alone, but only when people are brought up well enough to want fewer children and seek steps themselves to attain their desire, in the same way, environmental degradation cannot be checked by prescription, technology or management alone but by people being helped to appreciate through various improvements in the level of living and employment, to want to conserve their non-renewable resources and promote their renewable resources. This, I feel, can come only when the negative factors I have discussed are reasonably obliterated and the positive factors are coordinated towards a proper goal. □

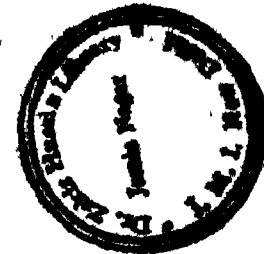
Vijayanagar and Daitari Steel Plants

THE UNION GOVERNMENT has decided to commence the erection of steel plants in Vijayanagar and Daitari in the Seventh Plan. A great deal of preparatory work for the erection of the two plants has been already done.

Efforts will be made to ensure that the Detailed Project Report for Vijayanagar Steel Plant is ready within 3 months and for Daitari in about 6 months.

A thorough review of the technology has been carried out based on the availability of raw materials of the requisite quality and the technology of direct reduction (with the use of non-coking coal) combined with high efficiency are furnace. Continuous casting has been established as the most cost-effective and therefore this technology has been selected. It will enable the production of iron and steel of high quality.

For Daitari, the site has already been selected and notifications for the acquisition of land have been also issued by the Government of Orissa. Soil investigations have been completed—as also studies of availability of water.

The plants will be erected in modules so that they can keep pace with the rate of growth of demand. The first phase (which includes the development of raw materials, transportation facilities and captive power) envisages an expenditure of about Rs. 400 crores in the Seventh Plan. Both the plants are being so designed that they can continue to be expanded as required to meet the demand. □

Employment strategy for the Seventh Plan

N. P. Singh

With the increase in population, about five to six million people are entering the employment market every year. How could this growing problem be tackled? In this article, the author has examined the technologies which could help the investment policies that would be appropriate, and identified areas that have the employment generation potential.

AS AT THE END OF 1983-84, there was an stimated backlog of about 20 million unemployed ersons in the country; atleast 5 to 6 million people ere being added on to the employment market ach year; and the organised (including Small cale Industry) Sector of Industry was hardly a position to absorb about 1.0 to 1.2 illion persons a year. From these basic figures, could be seen that the unemployment situation in e country, is indeed grave and calls for immediate tention for our planners and policy-makers.

The main choices available to us for alleviating is situation appear to be (a) to plan for a subntial increase in employment in the primary sec viz. agriculture and rural development, as the lk of the unemployed persons reside in the rural eas; (b) to increase employment opportunities in e tertiary sector e.g., services trade and banking, ., where the additional investment required to ate new work-places is comparatively low, and (c) encourage the use of employment intensive techlogies in selected sectors of the economy, specially in the case of agro-based, small scale, handlooms, handicrafts and cottage industry.

The views expressed in this article are those of the thor and do not necessarily represent the views of organisation to which he belongs.

Choice of technology

There are apparent conflicts|trade-offs among the objectives of maximisation of growth-rate, output and employment in a developing country. Now that the Approach to the Seventh Five Year Plan clearly emphasises the *maximisation of employment* as a dominant goal of the Plan, it is clear that in any case of conflict arising from the choice of techniques (to fulfil a specified production goal) between the objective of maximisation of employment on the one hand and that of maximisation of re-investible surplus (and thereby of the growth rate) on the other, a technology which leads to the creation of greater employment opportunities (both direct and indirect) for a given investment ought to be preferred, unless there are exceptional circumstances warranting a departure from this rule.

And here, the choice may not merely be between an indigenous technology on the one hand and an imported technology on the other, but it could also be between several competing imported technologies or indigenous technologies themselves. The question of choice could also pertain to futuristic technologies, i.e., those which could be developed or acquired by the country from outside, for the future.

Investment cost

The investment cost required to create an additional job varies from one sector of the economy to another and, within the same sector, it varies according to technology employed—whether capital-intensive or labour-intensive, etc.

The incremental employment-capital ratios for different sectors of the economy as extracted from 'A Technical Note on the Sixth Plan of India, (1980-85) are re-produced in Table I. It will be seen that the employment—investment ratio (in terms of person years per million rupees) varies from 0.024 in the Real Estate business to 115.625 in the construction sector, with the ratios for agriculture and manufacturing sectors being at 44.73 and 12.62 respectively. The estimated average incremental employment-capital ratio for the entire economy over the Sixth Plan Period is worked out to be 21.599 person years per million rupees. In other words, the average capital cost per work place for the economy as a whole over the Sixth Plan Period amounts roughly to Rs. 50,000 per person.

Prof. P. K. Bose in his paper entitled 'Dimensions of Unemployment, Science and Technology' has estimated the employment-investment ratios for 12 groups of industries. His data is reproduced in Table II. According to Bose's calculations, the employment generated per Rs. one lakh investment (employment co-efficient) varies from 0.3 in the fertilizer industry to 9.5 for the electronics industry. Employment co-efficients for industries like agricultural implements (5.0), commercial vehicles (5.2), heavy electrical equipments (5.2), tractors (5.4) and storage batteries (6.1) fall in the intermediate categories.

It will be seen that, contrary to popular impressions, heavy engineering industries like manufacture of commercial vehicles, tractors and heavy electrical equipment, etc. are relatively more employment—intensive than other industries like fertilizers, paper, automobile tyres and tubes and cement.

What is mentioned above refers only to the estimates of capital cost per work-place with reference to the direct employment opportunities created in the sectors in which the investments are made. No precise estimates are available of the indirect employment effects of such investments. However, in so far as a given sub-sector of industry (such as cement or sugar or fertilizer, etc.) is concerned, while the direct employment per unit of investment in an industrial unit would doubtlessly vary depending upon the plant size and the nature of technology employed, the down-stream indirect employment in associated sectors like transport, storage and wholesale|retail trade is not likely to vary significantly from one unit's product to another.

Likewise, the up-stream indirect employment may also not differ substantially from one unit in a given sub-sector of industry to another, as long as the unit-size and the input requirements remain the same, irrespective of the technology employed. It would, however, appear that engineering industries which procure some of their components from ancillary or other units are sure to generate more of up-stream indirect employment than other units in the same or other sectors.

An obvious word of caution, however, appears to be necessary at this stage. While deciding issues like sectoral allocation of investments in the light of the goal of employment generation, it is not as though all the investment could go into sectors whic[h] the most employment-intensive. The need [for] balanced sectoral development with reference t[o fac]tors like internal demand, export requirement[s,] inter-relationships among different sectors has [neces]sarily to be kept in view.

Strategy for employment maximisa[tion]

Against the above background, it may be [worth]while for the Government to consider the foll[owing] suggestions and strategies for moving toward[s the] goal of employment maximisation during the [Sixth] Plan Period :

It is possible to argue that even in a capital-s[carce] labour-abundant economy like that of India[, we] should still deploy the most advanced and [cost-]effective technologies regardless of their direc[t em]ployment benefits in areas like : (a) infrastr[ucture] development e.g. irrigation, power, transpo[rt and] communication; (b) export promotion; and [(c)] defence, atomic energy, health or others inv[olving] the security of the nation or alleviation of [human] sufferings or hazardous|unduly arduous conditi[ons of] work. etc.

However, the technologies to be employed at [least] in the rest of the sectors should be those [which] maximise direct employment (and also, if po[ssible,] production) per unit of investment rather than [those] that just aim at the maximisation of profits. [If this] argument is accepted, a deliberate bias in fav[our of] labour-intensive technologies in selected sect[ors of] the economy would need to be built into our [plann]ing, fiscal and other policies.

As suggested above, developing countries [with] a comparative shortage of capital and abunda[nt] labour should aim at evolving and adopting t[echno]logies which help in the maximisation of prod[uction] as well as employment for a given investment [rather] than those that just aim at the maximisation c[of pro]fits. Example of sugar industry where the ad[option] of the mini-sugar plant (open-pan sulphitatio[n pro]cess) technology in contrast to the vacuu[m pan] sulphitation process adopted by large-scale, n[ew] sugar mills leads to much greater employment [as well] as production per unit of investment, is a c[ase in] point.

However, in economies dominated by priva[te en]terprise, only those technologies are likely to b[e ulti]mately adopted that lead to the maximisation c[of pro]fits per unit of investment. It would, therefo[re, be] necessary for the concerned Governments t[o take] steps to overcome this apparent conflict of in[terests.] This could be achieved by correcting the 'facto[r price] distortions' in the economy, i.e., by the adopt[ion of] fiscal policies which would help increase the [profit]ability of the labour-intensive techniques abov[e those] of the more capital-intensive ones.

Capital-intensive pro[...]

Given the freedom of choice and necessary c[...] most entrepreneurs would prefer to deploy c[...] machines than employ more workers (i.e.

capital-intensive processes to more labour-intensive ones), not only for reasons of profitability (in a distorted factor-price situation) but also because (i) machine management appears to be inherently simpler than men management and (ii) the problems of labour management seem to grow more and more acute with the increase in the number of workers employed under one roof.

This tendency would need to be countered, if the utilisation of 'appropriate' technologies is to be promoted seriously. For this purpose, the Government will need to re-orient its credit, licensing, wage and labour management policies suitably, so that they not only prefer the establishment of smaller industrial units or units based on 'appropriate' technologies but also keep the demands for premature wage increases effectively under check.

The setting up of large-scale|heavy industries in backward areas has not generally helped in solving the problems of poverty or unemployment in those areas. Efforts should, therefore, be made to encourage the setting up of industries based on small-scale, intermediate technologies for such areas, specially those which seek to utilise raw materials, skills and labour locally available in these areas.

An 'Employment subsidy scheme' (in place of the 'Capital subsidy scheme' now in vogue) could be introduced to encourage the industrial development of backward areas. As an alternative to the substitution of the Capital subsidy scheme by an employment subsidy scheme, a modification of the existing scheme by weighting the amount of the Capital subsidies admissible to eligible units in accordance with the ratio of their Output-Capital ratios to the estimated output-capital ratio for the entire economy could not be considered.

The setting up of new industries based on technologies which are not considered appropriate to the country's socio-economic and environmental conditions needs to be consciously discouraged through a careful scrutiny of all technologies (whether imported or indigenous) from the viewpoint of their "appropriateness" at the industrial licensing stage. The expansion programmes of the existing industries should also be subjected to a similar test before their approval. A Government department or organisation possessing adequate competence to do so ought to be designated as the nodal agency to render necessary advice to the Industrial Licensing Authorities.

Another strategy that might deserve possible examination in the context of the Seventh Plan would be to have a deliberate policy of not increasing the indigenous production of goods in selected capital-intensive sectors of the economy, except those falling in strategic areas like infrastructural development, food and food inputs, defence, drugs and medicines, etc. (and to meet the additional requirements in these sectors through imports), but to maximise the production of goods and services in the more labour-intensive sectors and earn the needed foreign exchange through increase in the exports of the goods and services produced.

Liberal imports

During the Sixth Plan Period, the country appears to have thrown its gates wide open for import of capital goods and other materials from outside whether or not such goods or materials are available within the country. This is understood to have been done with the primary objective of encouraging competitiveness through import of goods among Indian industries, so that our industries are compelled to take steps to modernise themselves and upgrade their technologies.

However, nothing substantial appears to have been done to compel the Indian industry, hitherto enjoying a sheltered market, to put in significantly higher investments in research and development as required, with the result that the desired upgrading of technology and modernisation of the Indian industry can be achieved only through massive imports of technology and, in turn, of associated capital goods. Thus, at least in the short run, the country stands to face grimmer prospects in its balance of payments situation, while at the same time, the more inefficient units in the country which are unable to modernise themselves o[illegible] imports of technology successfully may [illegible] wiped [illegible] om the industrial scene completely.

Encouraging innovation

As an alternative to the present approach of creating a competitive environment in the Indian industrial scene through liberal imports under open general licence (OGL) a policy for creating a similar competition through deliberate but marginal over-licensing of production within the country might, therefore, deserve serious examination. It would not be unreasonable to expect that such a modified policy could itself encourage the process of innovation and modernisation on the part of the Indian industry and, further, through fall in prices based on the principle of demand and supply, it could also lead to more savings in the hands of the consumers, which, in turn, could be re-canalised through the Banking system for investment and further growth by following appropriate fiscal and monetary policies.

It is well understood that import of goods from other countries amounts to the provision of employment to the labour force in those countries at the cost of the native country's economy. While such import is certain sectors cannot be altogether avoided, special incentives would nonetheless appear to be necessary for encouraging import-substitution activities in our country during the Seventh Plan.

It would also be worthwhile to remember that import of technology is, in any case, preferable to the import of goods, since the former would, at least, encourage local production based on a minimum outgo of foreign exchange from the country. It may, therefore, be desirable to follow a policy of liberalised import of technology in respect of the manufacture of

9 DPD/84—3

such goods as are being freely allowed to be imported into the country currently. Such liberal imports of technology need not, however, be permitted under OGL; it should suffice if the clearance mechanisms in respect of imports of know-how in such cases could be simplified. The list of goods allowed to be imported under OGL would also need to be reviewed and curtailed from time to time.

The Economic Administration Reforms Commission (EARC) has recommended concessional tax treatment for the small-scale sector of industry, which generally yields higher production and greater employment per unit of investment in comparison with the medium/large-scale sector. EARC's suggestions in this regard would seem to deserve careful consideration on the part of the Government.

Employment generating activities

As mentioned earlier a major part of population and hence of the unemployed labour force resides in rural areas and, therefore, most of the additional jobs need to be created in the agricultural sector and in agriculture-related activities including agro-based, tiny and cottage industries and rural development. As production should match the demand, the felt needs of our rural areas in sectors related to basic human needs, viz, food, clothing, housing, medicines and education as well as in other fields, like rural sanitation, water supply, entertainment and infrastructural requirements, etc. need to be identified in considerable detail and the setting up of industries and other economic activities in the rural areas has to be planned carefully to match these needs.

As a corollary to the above, one of the important sectors deserving considerable emphasis and also close monitoring to ensure early completion of all on-going as well as new projects would be the irrigation sector. It is well known that the provision of irrigation facilities—whether major, medium, or minor—considerably helps in improving the productivity of land not only through multiple cropping, but also by improving the per-acre yields of the existing crops themselves through additional inputs like improved seeds, fertilizers and insecticides, etc. Fuller exploitation of the existing irrigation facilities through proper command area development and the provision of new ones at a faster pace would thus considerably enhance productive employment in the agricultural sector.

Further, the setting up of small-scale, tiny and, cottage industries, largely agro-based and utilising the locally available skills and other resources and catering to the felt needs of the people, in our rural areas, would also help in improving the income levels of the rural population as well as their quality of life, specially in the case of marginal farmers and landless labourers, who could be preferentially employed in such industries and thereby ease the pressure on land to some extent.

Lastly, keeping in view the fact that a majority of our farm-holdings are small and marginal, the development of small-farm technology specially suited to the needs of this group of farmers and promotion of subsidiary occupations like poultry-farming and fish-culture among them would also seem to require special emphasis.

Infrastructural sector

The sector next only in importance to Agriculture and irrigation is the infrastructural sector including Energy, Transport and Communications. Out of the aforesaid sectors, the area of energy is, perhaps, the most important, since energy is basic to all modern production activity and the provision of other services like transport, etc. in the economy. Acute and recurring shortages of power felt almost all over the country, barring in a few pockets, over the last several years have already led to the focusing of the attention of our planners on the need for putting in greater investments in the power sector and for more efficient and timely implementation of the on-going and new projects, in this area.

Likewise, with the growing pressures of our population on the country's transport facilities, both urban and rural, the transport sector also deserves much greater emphasis and attention. Any additional investments in the energy and transport sectors are bound to have considerable multiplier effects and, therefore, lead to the generation of significant amount of additional indirect as well as direct employment.

The communication sector, although not highly employment-intensive by itself, is also, nonetheless, basic to the needs of a developing and expanding economy. With the technological revolution currently taking place in the industrially advanced countries in the field of Communication technology, we may find it difficult to cut down the minimum essential investment needed in this sector in order to keep pace with the on-going developments in this field in the advanced countries and also to cater to the country's expanding requirements.

Construction industry

Yet another sector of considerable importance is the area of construction industry. As could be seen from Table I, the construction sector with an employment-investment ratio of 115 person years per million rupees is the most employment-intensive sector in the entire economy. When we look at the acute housing problem in our urban as well as rural areas on the one hand and the need for generation of additional employment opportunities on the other, there seems to be no reason to deny a special thrust to the construction industry in the Seventh Plan period.

There are many steps which the Government could consider for this purpose For instance ; the construction business in-so-far as it relates to the building of dwelling houses catering to the needs of the middle and lower income groups and EWS should be treated on a par with other priority sectors like small-scale industries and agriculture in the matter of provision of finance and charging of interest rates; secondly, the tenancy laws which strongly discourage private investment in the construction of dwelling houses for purposes of letting should be suitably amended.

In fact, the housing problem in the country, specially in its urban areas, is so serious that even a more drastic step for solving it, e.g., permitting investment of money from any sources in the construction of dwelling houses (not exceeding a specified size and other standards) without asking investors to account for the sources of such money could also be considered for a limited period of, say, three to five years. It would not be unreasonable to expect that this step would help in channelising the use of black money, which otherwise plays havoc with the economy, into a socially useful direction and contribute significantly towards the solution of the acute housing problem in the country.

Manufacturing sector

Coming to the manufacturing sector, it would be noticed from Tables I & II that while the employment-investment ratio in this sector as a whole amounts to 12.6 person years per million rupees (or roughly an investment of Rs. 80,000 for every new job created), the sub-sectors which account for the greatest employment-intensity are 'electronics' and 'engineering industries' (both heavy and light). Besides, the small-scale sector, as such, is considerably more employment-intensive than the medium and large scale industries and the tiny sector is more employment-intensive than the rest of the sub-sectors of the manufacturing sector. The direction of emphasis, both for purposes of choice of technology and the additional investment required in the manufacturing sector is, therefore, clear. In case we seriously desire to fulfil our goal of maximising employment generation during the Seventh Plan, technologies suited to the requirements of small-scale and tiny industries, specially those in the Electronics and Engineering sectors, would deserve considerable emphasis.

The illustrative list of employment generating activities so far discussed has not covered sectors like services, trading and banking/insurance and other areas like maintenance services and various other self-employment activities. These activities also have a very great potential for employment generation and need to be encouraged suitably. Out of these, the activity relating to the maintenance of various types of machinery and equipments used in fields like agriculture, health, industry, administration, consumer durables, etc. is one where the generation of fresh employment opportunities is linked with the need for the creation of new training facilities, in view of the shortage of skilled hands in the country to take up such work. The Department of Science and Technology and the Ministries of Education and Labour would, perhaps, do well to devote careful thought in this direction.

Influencing the demand

We have so far confined our attention only to the 'supply' side of jobs and said nothing about how to influence its 'demand' side, both in terms of the demand pattern and the quantum of such demand. The 'demand pattern' for the jobs can be influenced through the types and level of education imparted to the people and in particular, by introducing appropriate vocational streams in our educational curricula. Unfortunately, due to the somewhat disorganised, if not half-hearted, efforts made in the past and also lack of co-ordination among the various agencies involved in this field at the State level, the scheme of vocationalisation of education attempted thus far can hardly be described as a success. The Ministries of Education and Labour and the Planning Commission as well as all other Government Departments and Agencies concerned with Educational man-power planning, both at the Centre and in the States must, therefore, devote considerable thinking in this direction, with a view to seeing that the educated man-power supply in the country matches its demand in various sectors, as far as possible.

Lastly, as regards the 'quantum' of demand for the jobs, the only way to influence it downwards would be to accelerate the implementation of family welfare programme. We could also think in terms of either guaranteeing or, at least, according a preferential treatment in the matter of provision of employment (either Government or private), to at least one member each of the families of those who voluntarily accept a 'terminal' method of family welfare as a means of limiting the size of their families after two or lesser number of children. These steps, it is expected, would go a long way in reducing the 'demand' for jobs in the long-term perspective (although, obviously, not during the Seventh Plan Period) in the country.

TABLE I

Incremental Employment-Capital Ratios for different sectors

Sl. No.	Sector	Employment (in million standard person years) 1979-80	Employment (in million standard person years) 1984-85	Investment (in Rs crores) 1980 to 1985	Employment Investment ratio (person years per million rupees)
	1	2	3	4	5
1.	Agriculture	80 331	95 251	29982	44 730
2.	Mining & Quarrying	0.724	0 894	6575	2 585
3.	Manufacturing	22.012	27.758	45515	12.626
4.	Construction	9.286	11 321	1760	115 625
5.	Elec, gas and water supply	0.723	0 927	23554	0 866

(1)	(2)	(3)	(4)	(5)
6. Railways	1.662	1 704	4724	0.889
7. Other transport	7.109	8.677	11330	13.839
8. Communication	0.800	0.917	2902	4.031
9. Trade, storage and warehousing	13.278	116.640	7299	16.061
10. Banking and insurance	1.038	1.225	260	77.927
11. Real estate and ownership of dwel.	0.028	0.032	16437	0.24
12. Public Admn., Defence and other services	14.119	16.042	4886	39.357
13. Investment in IRDP and NREP	00.000	4.000	3886	11.5
TOTAL	551.11	1185 39	158710	21.599

Source : **Technical Note on The Sixth Plan of India (1980-85).**

TABLE II

Investment in various industries with employment generation

Sl. No. Industry	Data from total number of firms	Total employment	Investment in machinery (in lakhs)	Employment coefficient (Employment pe Rs. 1 lakh * investment)
(1)	(2)	(3)	(4)	(5)
1. Cement	7	7,675	3,676 34	2 1
2. Automobile tyres and tubes	2	3,720	2,617.00	1.4
3. Fertilizers	22	4,405	15,850 00	0.3
4. Tractors	1	1,140	213 00	5.4
5. Heavy electrical equipment	1	52,000	10,000.00	5 2
6. Storage batteries	1	1,610	284 00	6.1
7. Machine tools	All	45,000	11,000.00	4.1
8. Commercial vehicles	2	12,030	2,295 00	5.2
9. Dry cells	3	900	195.00	4.6
0. Paper and paper boards	1	3,500	6,000 00	0.6
•. Agricultural implements	All	2,000	400 00	5 0
•. Electronics	3	4,640	488.42	9.5

*Extract from Table 1 of Appendix 4 Dimensions of Unemployment, Science & Technology by Prof. P.K. Bose in the 'Report he Committee on Scientific and Technical Manpower (Nov. 81) Govt. of India : Deptt. of Science & Technology.

Fourth Oil Berth at Bombay

THE FOURTH OIL BERTH at the Butcher Island Oil Terminal at Bombay was commissioned recently. It adds a new dimension to the crude oil handling capacity of the port, increasing it by some 50 per cent with an additional throughput of 8.5 million tonnes of crude.

The fourth berth has capacity to handle tankers upto 80,000 dw. tons with a maximum loaded draft of 12.7 m. and is designed with an in-built capacity to take tankers upto 125,000 dw. tons drawing water upto 15m. with suitable additional deepening of the main harbour channel.

The planning designing and supervision of construction of the project costing Rs. 38.79 crores were done entirely by the BPT engineers while the civil engineering works of the berth construction and its approach were carried out by the National Buildings Constructions Corporation (NBCC) with the assistance of foreign firm. The fourth oil berth would generate annually about Rs. 500 crores by way of [illegible]ngs and earnings of foreign exchange. □

Progress of IRDP

THE TOTAL INVESTMENT in the first four years of the Sixth Five Year Plan on various schemes under the Integrated Rural Development Programme has touched the figure of Rs. 3433.10 crores.

The per capita investment has also risen from Rs. 3107 in 1982-83 to Rs. 3201 in 1983-84.

The term [illegible] mobilisation has also shown considerable improvement from Rs. 713.98 crores in 1982-83 to Rs. 773.[illegible] crores in 1983-84. The total credit mobilised so far in the first four years of the Plan comes to about Rs. [illegible]44.13 crores. The percentage of utilisation to total allocation has also shown a significant increase from 89.70 per cent in 1982-83 to 99.69 per cent in 1983-84. □

Growth sans justice

S.R. Chirmade

Analysing the traditional and the modern approach to economic development, the author says that inequalities are widening even with perceptible growth in main sectors of the economy. The situation could, however, be improved with the greater integration of the poor into the income generation process and the creation of new productive assets or through redistribution of the existing incomes and assets, he adds.

THE GOAL OF ECONOMIC PLANNING as the Indian planning and policy makers envisage it, is to establish an egalitarian and prosperous society. Economic development till recently emphasised a rapid rate of growth of the national product to attain this objective. But now there has emerged a school of thought which proceeds on the basis that there is an inherent conflict between the requirements of development and the needs of social justice.

According to the traditional approach of growth, the development objective is linked to production in aggregate as well as in per capita terms, and its rate of change over time ; and the investment planning has to ensure that the limited resources are channelized into the most productive lines to generate enough surplus for saving and reinvestment.

It is assumed that once growth takes place, its trickle effect will benefit the people in the low income groups and its spread effect will activise different sectors of the economy. The traditional approach to growth stipulated that efforts to promote social justice through reduction in income inequalities would eventually slow down the rate of growth and income generation.

Insignificant impact

The experience in the Third World countries however has shown that growth by itself does not lead to amelioration of poverty. Studies on process of economic development in several developing countries where satisfactory rates of growth of economy have been achieved during the recent past bear out that growth has not always been able to make any significant impact on employment and poverty ; and that unemployment, inequalities and poverty conditions are assuming serious dimensions in the developing countries.

Many third world countries which had achieved relatively high rates of economic growth by historical standards in 1960s began to realize that such growth had brought few significant benefits to their poor. In Africa, Asia, Middle East and Latin America, levels of living seemed to stagnate and in real term even declined.

Indian experience

In India also while there has been growth in the economy since planned development started, it has hardly any effect on the problem of unemployment and poverty. Growth both industrial and agricultural is confined to certain classes of people and certain parts of the country aggravating thereby Income and assets inequalities and regional imbalances.

It has been acknowledged that a high rate of growth is not a substitute for deliberate and effective policies to ensure equitable distribution of the gains of development. In the absence of such policies the process of economic development makes the rich far too rich before the poor can secure the bare minimum, and also widens the gulf between the rich and the poor intolerably and inevitably undermines the democratic foundations of the economy.

Current thinking

Current thinking as initiated by World Bank experts and other economists has altered the approach to development planning. A high growth rate is a necessary but not sufficient condition to ensure employment generation and income distribution in favour of masses and reduction of mass poverty. Growth has to be linked to ultimate goal of planning. Since the creation of an egalitarian society is the aim of planning the aspect of income distribution in the growth process cannot be divorced from the production aspect.

Recent evidence confirms that in early stages of development the distribution of income tends to become more concentrated Increases in output come disproportionately from relatively small modern sectors with huge investment and have relatively high rates of growth This pattern of concentrated growth is perpetuated by limited access to land, capital, education and even modern sector employment; and is often reinforced—unintentionally or otherwise by Government's fiscal and trade policies.

As growth continues its benefits do not percolate to the masses due to certain obstacles The rapid growth of population in the third world countries has led to an excess supply of unskilled labour. Since they cannot be absorbed in wage employment in organized sector, the bulk of the poor are self-employed small farmers, rural artizans and members of the rapidly growing urban informal sector.

For these poverty groups income growth is limited by lack of access to land, capital and other public facilities often by outright discrimination and distorted implementation of seemingly egalitarian policies of the Government. In some countries access to modern sector employment has been improved through education and the rapid growth of demand for labour, while in some others land has been redistributed and public investment redirected to offset the initial disadvantages of the poor. A few developing countries in which the poor have shared equitably in income growth are Israel, Yugoslavia, Taiwan, Korea, Sri Lanka, Costa Rica, Tanzania etc.

Justification of economic inequalities

The basic economic argument to a large income inequalities was that high personal and corporate incomes were necessarily saved which made possible investment and economic growth through such mechanism as Horrord-Domer model. If the rich save and invest significant portions of their income productively while the poor spend all their income on consumption goods and if gross national product rates are directly related to the proportion of the national income which is saved, then apparently an economy characterized by highly unequal distribution of income would save more and grow faster than one with a mass equitable distribution of income.

Eventually it is assumed that national and per capita incomes would be high enough to make possible sizable redistributions of income through tax and subsidy programmes. But until such time reached, any attempt to redistribute incomes significantly would only serve to lower growth rates and delay the time when a larger income pie could be cut up into bigger slices for all population groups.

The other view

There are certain reasons why many development economists now believe that the traditional argument pertaining to the relation of saving as arising from personal and corporate entity and the levels of economic growth as incorrect and therefore the necessity of equality in developing countries aspiring for self-sustaining economic growth.

First, the common impression supported by wealth of recent empirical data bears witness to the fact that unlike the historical experience of developed countries, the rich in the contemporary third world countries are not noted for their frugality nor for their desire to save and invest substantial portions of their incomes in their respectively economy. Instead, landlord, progressive farmers, the newly coming-up farmers, businessmen, politicians and other rich elite are known to squander much of their incomes on imported luxuries goods, expenses on residential houses, lavishly furnished guestrooms in business and factory premises, foreign travel and investment in gold, jewellery, marriage, other family ceremonies etc. Such savings and investment do not add to nations productive resources. In fact they represent substantial drains on these resources in that the income so derived is extracted from the sweat and toil of the common uneducated, unassuming and unskilled labourers.

Unaccounted income

Moreover, unaccounted income is earned not only by businessmen, traders, doctors, lawyers, engineers and persons with powers but also by some middle class persons in government, or semi-government services and other persons such as dowry recipients and teachers with tuition income. Thus people with unaccounted incomes are found to over indulge in pleasures on a perennial basis in accumulating almost-endlessly for their progeny, and in weilding their money powers in social, political, governmental and religious spheres to their own advantage.

The rate of capital formation is higher in developed countries than that in low income countries. This can be illustrated statistically. Mr. S. B. Mehta an economic analyst, pointed out that savings in India as spread on accounted and unaccounted incomes (in parallel economy) comes only to 13 per cent for the year 1978-79 instead of 22 per cent as it was officially enumerated.

The life of leisure classes under the open class system exerts a strong influence on business orientation and on the kind of business activity followed in a community. A preference for short term commercial operations or for speculative enterprises rather than long term industrial undertaking is in

ct known to be common in many underdeveloped untries.

Structural changes

The structural changes in Indian economy have t taken desired direction as the share of the rtiary sector in the net product has been steadily creasing from 30.2 per cent in 1970-71 to 37.2 r cent in 1981-82 (from 30.2 per cent to 36.9 r cent at constant prices).

Second, the low incomes and the low levels of ing for the poor which are manifested in poor alth, nutrition and education lower their economic oductivity and thereby lead directly or indirectly slower growing economy. The poorest 20 per nt population in India gets only 8 per cent, the orest 60 per cent receive 30 per cent, the middle -60 per cent receive 16 per cent, the highest per cent receive 20 per cent and highest 20 per nt receive 42 per cent of the national income. rategies to raise the incomes and levels of living bottom 40 per cent or so would therefore conbute not only to their material welfare but also the productivity and income of the economy as whole.

Thirdly, raising the income levels of the poor ll stimulate an over all increase in the demand locally produced necessity products like food and thing. On the other hand rich spend their income, luxury goods mostly imported. Thus raising dend for local goods provides a greater stimulus to al production, local employment and local investnt. It will certainly create conditions for rapid nomic growth and a broader popular participation the process of development.

Fourthly, a more equitable distribution of income, ered to through the reduction of mass poverty stimulate healthy economic expansion by acting a powerful material and psychological incentive wide spread public participation in the developnt process. On the other hand, widespread income qualities and substantial absolute poverty can as a powerful material and psychological disinitive to economic progress.

Fifthly, Article 38 in the Constitution of India vides that the State shall strive to promote the lfare of the people by securing and protecting as ciently as it may a social order in which justice, ial, economic and political, shall inform all the titutions of national life. The State shall in partiar strive to minimize the inequalities in income d endeavour to eliminate inequalities in status, ilities and opportunities not only amongst indivils but also amongst groups of people residing in erent areas; and engaged in different vocations. Article 39 also states that the State shall direct policy towards securing that the citizens, men l women equally, have the right to an adequate ns of livelihood, that the ownership and control the material resources of the community are so ributed as best to subserve the common good that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment. The contents of these articles indicate that one main objective of the Constitution is for a welfare state and an egalitarian social order.

Thus, Sixth Five Year Plan (1980-85) also incorporates that it will not be realistic to rely solely on the growth process to find solution to the problem of poverty and that specific policy measures would be needed to ensure social justice as improvement in living standards of the poorest groups, and reduction in inequalities in assets and distributions.

Sixthly, exclusive reliance on the natural forces of economic growth to reduce significantly the extent of absolute poverty in most develoing countries appear to be insufficient. Professor Kuznets has done a pioneering analysis of the historical growth patterns of the contemporary developed countries. He has suggested that in the early stages of economic growth the distribution of income will tend to worsen while at the later stages it will improve.

However our inqualities are widnening even with perceptible growth in main sector of the economy as agriculture and Industry during the last twenty-five years. It should be noted that it is the character of the economic growth i.e. how it is achieved, who participates in the process, which sectors are given priorities, that determines the degree to which growth is or is not reflected in improved living standard of the poor.

In an émprical study carried by J.A. Adelman, G.T. Morns and John Hopkins, for forty-three developing countries pertaining to the relationship between shares of income accruing to the poorest 60 per cent of the population on one hand and country's aggregate performance on the other was analysed and it was found that both relative and absolute income share of the 60 per cent of the population has been decreasing on the average.

Myth of Kuznetic hypothesis

The "Kuznets Hypothesis" that in the early stage of economic growth, the distribution of income will tend to worsen and that in the later period it would improve may not hold true in the developing countries. Because in the early dynamic phase of capitalism when the present developed countries achieved development, inequalities in income and wealth were functional to economic growth. In that phase the rich class put a premium on saving and investment. As Keynes wrote, "The new rich in the nineteenth century were not brought upto the large expenditures, and they preferred the power which investment gave them to the pleasure of immediate consumption. Like bees they saved. Thus because of the puritanical consumption habits of the rich class in the early stages of capitalism, the inequalities in income distribution promoted growth. But the later phase of capitalism has a structural difference from the earlier phase.

Prof. A.K. Das Gupta has stated that modern capitalist knows how to spend and what to spend on.

Far from being the puritan that his ancestors used to be he now indulges in conspicuous consumption. In modern phase of capitalism, inequalities in distribution of income between capitalists and labourers is matched by a conspicuous inequality in the distribution of consumption between them. Moreover these inequalities are sustained and enhanced by inequality of distribution of power. The rich and newly emerging rich intermediate class which enjoys luxury consumptions dictates what to produce and how much. Hence there is a premium on production and marketing of luxury goods and a discount on the production and distribution of consumption goods.

In a society where mode of production is class exploitative and class divisible, the State even if it functions under the framework of political democracy is not a class neutral agent, and its actions are determined by its class character, the class which controls the state power.

Seventhly, Thorstein Veblen, who occupies a place *in the line of makers of the modern world, in his* book "The Theory of Leisure Class" sarcastically states that in modern communities, where the dominant economic and legal feature of the community's life is the institution of private property, one of the salient features of the code of morals is the sacredness of property. A thief or swindler who has gained great wealth by his delinquency has a better chance than the small thief of escaping the rigourous penalty of the law, and some good repute accrues to him from his increased wealth and from his spending the irregularly acquired possession in a seemly manner. There is an inclination to condone an offense against property in case of man whose motive is the worthy one of providing the means of decent manner of life for his wife and children (or of providing dowry for his daughters' marriage).

And hence about Veblen, Mr. Louis Untermeyer in his book "Makers of the Modern World" aptly states that never before had any American so savagely mocked the prevailing cannons of tastes and culture or castigated the pleasure of spending money by labeling it a foolish way of purchasing prestige. Veblen contended that leisure class makes property synonymous with proficiency and even potency, and feels it vitally important to glorify ostentatious waste and to encourage all classes even the least affluent to do the same.

Weak integration of poor

In conclusion, a reference may be made to views of Prof. R. Sinha and his associates who in their analysis and simulation of the poverty stated that low income status of the poor is the invariably low share accruing to them from income generation since the poor gain only a low share in the value added from all sectors. Manipulation of the structure of output, whether through income redistribution, fiscal measures, or otherwise, can bring at best only a marginal improvement in their relative position.

The basic reason for the low income shares of the poor lie in aspects such as their weak integration into the process of creation of factor inc their low levels of ownership of productive land, physical capital and human capital. To this situation, their greater integration is into the income creation process and the of new assets or through redistribution of ones. Until changes of this order take place transfers, income injection or consumption can be merely palliatives, effective so long are consistently renewed.

Thus the ethereal or incorporal policy ap to poverty eradication should give way subtle, tangible policy steps with resolute nation and honest implementation.

Moreover the policy makers, thinking int and scientiests should realise that during century our knowledge of the physical w acquired electronic dimensions. But our ideals have remained glued to tradition of and imbalance has been created between re and development in physical and social asp physical scientists have reached miraculous in research and development of technology social scientists have not as yet found ans socio-economic malady as the abysmal po proliferating inequalities. □

Zinc and iron deficiency affec rice crop

The micro-nutrient experts of the Punjab ural University have discovered wide-spread of zine and iron in the rice crop in Punjab.

Zinc deficiency has inflicted the rice crop (Kallar), flood plain (bet) and sandy soils. S of zinc deficiency appear on older leaves a brown spots like rust. The experts have c this deficiency despite application of zinc sul the farmers. It was further found that zinc applied to the crop was spurious in most of t

Deficiency of iron in rice has also been w particularly on highly permeable light soils water does not stand more than a few ho symptoms of iron appear on new growth as ir chlorosis followed by complete yellowing c The older leaves remain green.

The experts have advised the farmers to per cent ferrous sulphate solution (1 kg fer phate in 100 litre water) at 4 to 6 days int the deficiency disappears. They should try water for a prolonged period by making sm In future, on such soils green manuring s done before transplanting which greatly helps gating the iron deficiency and simultaneously per cent nitrogen fertilizer. □

TOWARDS SOCIAL REVOLUTION
a Case for Economic Democracy -
VASANT SATHE

A Serial...

The economic system

ONE OF THE MAJOR SPHERES OF Human ıctivities which influences sometimes controls and romotes, activities in other fields including those of :ience and technology is the sphere of political eco-omy.

In an earlier chapter we have seen that the entire volution of man as an intelligent species was possi-le not only because of his urge to fulfil his animal eeds but also because of his hunger for knowledge s well as his desire not merely to adjust to but also ɔ mould and even overcome the environment, name-y, the nature around as well as the universe beyond 'his motivation, engendered by a mental or intel-:ctual thirst, has made him ask questions and has rged him to find out about himself : his birth and eath and their cause Though whenever he has come cross an insurmountable obstacle in his inquiry, he ;as found solace in attributing the unknown to some upreme power, yet, he has carried on with his in-|uiry.

It may appear from an historical perspective that he entire evolution or growth of civilisations has ›een mainly due to factors of personal ambitions of ıggrandisement and greed of a few individuals. Yet, n the vast fields of culture, adventure, science, litera-ure and arts, man has been motivated by urges other han mere material greed. Hence, when we consider ıis political or economic activity, we must, at the ›utset, reject the thesis often propounded that the ›nly motivating force in socio-economic or political ıctivity is the individual's personal greed for material ›ower and domination over his fellow human beings. This argument is often advanced to justify the exist-:nce of economic activity in the name of free enter-›rise and laissez faire, and it is urged that unles you ıllow individuals unlimited freedom even in exploit-ng their fellow human beings, you will not provide notivation for the growth of industrial or business ıctivities. We need not dwell much longer on this ›oint because the fallacy of this argument has been ›roved over and over again in every field of life.

It is easily understandable that one of the funda-nental urges of a human being is to seek fulfilment ›f his physical and material wants in order to protect ıimself from the elements, to give him nourishment ınd to provide him with other facilities for a comfortable living which would generate his activities in different fields of his liking and preferences, such as the pursuit of knowledge in the spheres described earlier. This has been so throughout the history of man.

Beyond a certain point, when the normal basic needs and comforts have been fulfilled, the greed for material acquisition springs mainly from the desire to show off against his fellow human beings in terms of a status symbol or a symbol of power. Such a symbol does not serve any purpose of personal satisfaction in terms of fulfilling material wants. Once we allow a state of affairs where individuals can accumulate and control material wealth, even while depriving fellow human beings of their share, then, the whole concept of providing equality of opportunities and social justice becomes meaningless.

As for the right of a human being over his body, as the basis of his right to property, it should be the fundamental right of every human being to decide for himself or herself whether he or she wants to continue to live or not. If a person does not wish to associate himself with society, he should be free to isolate himself If he wants to totally withdraw from the human society, the choice should be given to him.

As a logical corollary, if a person makes himself harmful to other members of society by any act, then society, as a social anatomy, has every right to cure the diseased member or, if incurable, to discard him as a malignant cell. There should be no moral compunction in this regard.

Hence, in a society like India's which had recently gained independence from political domination and economic exploitation by an alien power, the first and foremost consideration was how to provide an economic structure which would bring about a balance growth of the entire people without being exploited by foreign force or indigenous ones. That freedom from foreign domination should also mean economic freedom from poverty and exploitation for every citizen and particularly the poorest among them was the main political ideal and motivation throughout the independence struggle under the leadership of great men like Mahatma Gandhi, Jawaharlal Nehru and others. It was this emphasis on giving priority

to the problems of the weakest, which was supposed to be the main guideline for all administrative and state activity. The famous quotation of Gandhiji is :

"I will give you a talisman. Whenever you are in doubt or when the self becomes too much with you, apply the following test : Recall the face of the poorest and the weakest man whom you might have seen and ask yourself if the step you contemplate is going to be of any use to him. Will he gain anything by it ? Will it restore him to a control over his own life and destiny. In other words, will it lead to Swaraj for the hungry and spiritually starving millions ?

Then you will find your doubt and your self melting away."

This quotation was often plaeed on the table of every prominent authority in government. It was with this objective that, under the dynamic and visionary leadership of Pandit Jawaharlal Nehru, was adopted the concept of planning ; to have a planned economy which would enable the evolution of a balanced growth and the uplift of the poor and the hungry millions.

More than 30 years have gone by since we started having a planned economy, and it is time we evaluated its success and ascertained whether the purpose aimed at is being achieved or whether there is any need to reorient or modify our approach in the fields of growth and of economic activity.

In absolute terms, we have achieved great progress in various fields, indeed we have shown a tremendous capacity for development in practically every field of growth. We have built up a solid infrastructure and we have every justification to be proud of our achievements. But having said this, we cannot close our eyes to the fact that growth and development have been restricted to a comparatively small section of the Indian people. We have virtually created a small island of prosperity in a sea of poverty where a small section of the population has all the benefits of modern civilisation. The picture of our national economy is best symbolised by a metropolitan city like Bombay where one can find a vertical growth of skyscrapers and five-star hotels surrounded by the horizontal, sprawling and proliferating slums teeming with the poor.

Can imbalance be more stark ? And yet, it must be borne in mind that there have been benefits resulting from the overall policy in improving the living conditions. Those who know of the conditions pr vailing prior to independence will see a marked chan in the general conditions of living when they look what obtains today in the remotest parts of ru areas. The fact that the average life expectancy h increased from 27 years to 54 years in just thr decades speaks for itself.

There is a marked improvement, yet, we cann ignore the realities of the distortion when we try find out, as Jawaharlal Nehru himself had soug to do while appointing the Mahalanobis Committe as to where the whole growth brought about as result of planned activity had gone. We shall see t staggering reality that the growth has remained co centrated in the hands of the few, leaving the va majority of our population deprived of not only t benefits, but even the opportunities of developmen The army of unemployed is increasing. If we go t the root of most of the problems of social unres whether they take the form of a parochial, region agitation or a linguistic or communal agitation, w will find that at the bottom one of the main reasor is economic discontent, mainly among the young people, on account of the lack of economic opportu nities for having remunerative employment. Th particularly creates frustration because they have re ceived general education or sometimes even techni cal education, but are not able to secure jobs that ca help them to eke out a reasonable living for themselve and their dependents. Such young people lose patienc and cannot be satisfied with promises of a distant fu ture. Hence, they fall a pray to the immediate appea of narower interests. For instance, they start feelin that if the people different from them in terms o language or religion or any other identificable charac ter are pushed out or thrown out, then more job oppor tunities and avenues of employment would be create for people of their group. To this basic idea, other emotional issues are added and the agitation gets divest ed of any rational considerations and goes on bein fed and fanned purely by sentiment.

It is not as if the young people, particularly th educated amongst them, lack national perspective o pride in belonging to a big, strong and united nation They are simply carried away by emotion though i may, in fact, be rooted in economics. The questior of economic distortion cannot therefore be wished away or belittled. Table below shows the consume per capita expenditure according to the twenty-seventh round of the National Sample Survey (NSS) (1973-74).

Distribution of population accor ng to per capita expenditure.

Range of annual expenditure (as per NSS 1973-74) per capita.	Population (1981 Census)			
	Number (in million) rural	In percentage to total rural population	Number (in million) urban	In percentage to total urban population
(a) Between Rs 0 and Rs. 408	120.94	23.06	14.83	9.30
(b) Between Rs. 408 and Rs. 1200	359.01	68.46	103 92	65.13
(c) Total (a+b)	479.95	91.52	118 75	74.43
(d) Above Rs. 1200	44.46	8.49	40 78	25.57
(e) Grand total (c+b)	524.41	100.00	159.53	100.00

***The total population of India according to the 1981 census : 683.97 million.

The reader should also see Appendices 1 and 2 for detailed tables provided by the Central Statistical Organisation.

I have deliberately picked up the consumer expenditure figures from the lowest level because what you spend principally depends on what you have or what you earn. It is only what you spend which creates the demand. So the figures based on expenditure are more reliable for the purpose of knowing what is the effective demand that generates economic activity. When analysed, these figures reveal the following facts :

(1) Based on the findings of the NSS and by applying them to the population figures of the 1981 Census, it will be seen that out of a total rural population of 524.41 million, nearly 91.52 per cent, i.e. 479.95 million, have a per capita expenditure of below Rs. 1200 per annum or below Rs. 100 per month. According to the Task Force on the Sixth Plan, a monthly per capita consumption expenditure of Rs. 104 has been assumed as the line of poverty for the year 1981-82, for the rural areas.

(2) In the urban areas, out of a total population of 159.53 million, nearly 74.43 per cent or 118.75 million fall within the annual expenditure group of below Rs. 1200 The corresponding poverty line consumption expenditure is Rs. 113.

(3) Taking both the rural and urban population together, it will be observed that 598.70 million people have a per capita consumption expenditure of less than Rs. 1200 per annum. It is pertinent in this connection to ask ourselves what necessities and essentials can be purchased at the rate of Rs. 100 per month per head (or at the rate of Rs. 3.35 per day) at the present-day prices. Thus, nearly 600 million people out of about 700 million are living below or near the poverty line.

(4) About 135.76 million people—120.93 million in rural areas and 14.83 million in the urban areas—are only able to spend less than Rs. 408 per annum (or Rs. 34 per month) on themselves, which means they are just on the survival line, in abject poverty conditions.

(5) This leaves the fortunate class of people who spend Rs. 1200 or more per capita per annum and around whom all the economic activity is concentrated. Numbering 85.24 million, they are scattered almost evenly in the rural and urban arenas. To be precise, 44.46 million in the rural areas and 49.78 million in the urban areas.

(6) At best, the market with any buying power in the rural areas consists of 44.46 million people or 8.48 percent of the rural population and in the urban areas it consists of a population of 40.78 million or 25.57 per cent of the urban population. Taking the country as a whole, this group of 85.24 million people represents 12.5 per cent of the total population of the country.

Those people whose income is between Rs. 100 and Rs. 200 per month can at best have only the bare necessities of life such as food, fuel, clothing, shelter and medicine at the present costs. They can hardly spend on comforts, leave alone saving. Hence, savings can come mainly from those who can spend more than Rs. 200 a month. According to the above mentioned National Sample Survey, the percentage of this population is 0.98 in the rural sector and 5.6 in the urban sector (for details, see Appendix 1). Thus, it is this population of about 20 million which can save and which is the economic market for all major productivity activity.

There is another side of this picture that we must look at to know where and how the main economic activity is concentrated and controlled. After all, it is from the economic activity, both production in factories and farms and distribution through trade, that income is generated. And this income is assessed for the purpose of income tax, which is one of the major sources of revenue of the government. The government has been using the tool of taxation not only to mop up the surplus generated from the economic activity but also to bring about a reduction in the disparities of incomes by the method of adjustment of taxation. We shall presently see as to how many people are involved in this activity. Table below shows the number of income tax assessees in the different taxable income groups, their percentage in each slab of income, the amount realised and its percentage to the total taxes assessed.

Details of income tax (1979-80)

Income Range (Rs.)	Number of assessees	% of total	Income assessed (Rs. Crores)	% of total	Tax Payable (Rs. Crores)	% of total
Below 10,000	136,773	7.5	112.6	1.8	5.2	0.3
10,000—15,000	797,481	43.8	959.6	15.6	57.3	3.7
15,000—25,000	513,707	28.2	968.4	15.8	97.3	5.7
25,000—50,000	248,606	13.7	845.5	13.8	143.4	8.4
50,000—100,000	88,401	4.9	594.3	9.6	127.7	7.5
100,000—500,000	31,362	1.7	532.3	8.6	163.0	9.4
500,000 and above	3,245	0.17	2136.2	34.8	1111.3	65.0
Total	1,819,575*	100.0	6148.9	100.0	1705.2	100.0
More than Rs. 50,000	123,008	6.77	3262.8	53.0	1402.0	81.9
More than Rs. 100,000	34,607	1.87	2668.5	43.4	1274.3	74.4

*This figure also includes companies, which, during the year 1979-80, accounted for 11,636 assessments covering an assessed income of Rs. 2020 crores and a tax demand of Rs. 1075 crores.

Appendix 1. State-wise Percentage Distribution of Number of Households by Monthly Per Capita Expenditure Class (Rural)

State/Union Territory	Monthly per capita expenditure class (Rs)														
	0-13	13-15	15-18	18-21	21-24	24-48	28-34	34-43	43-55	55-75	75-100	100-150	150-200	200 and above	All classes
Andhra Pradesh	0.97	0.32	1.13	2.83	3.32	4.61	11.17	22.17	20.40	18.20	7.52	5.02	1.29	1.05	100.00
Assam	..	0.17	0.17	0.33	2.50	3.17	7.33	19.50	26.33	26.33	9.50	4.17	0.50	..	100.00
Bihar	0.38	0.15	1.77	1.92	2.15	4.23	9.23	16.54	22.24	21.15	12.00	5.85	1.31	1.08	100.00
Gujarat	0.19	0.19	0.57	0.38	0.75	4.15	7.92	18.87	23.21	23.21	12.26	6.98	0.75	0.57	100.00
Haryana	.	0.17	.	0.50	0.50	2.65	5.80	11.77	17.08	22.88	17.91	12.34	4.15	3.65	100.00
Himachal Pradesh	0.25		0.51	..	0.25	0.51	2.03	8.38	17.26	27.91	23.60	13.71	3.81	1.78	100.00
Jammu and Kashmir	.	.	0.23	0.53	1.66	3.17	8.67	17.51	23.73	24.86	10.55	5.65	1.06	0.38	100.00
Karnataka	0.16	0.48	0.48	1.66	3.54	5.63	13.09	18.36	18.68	19.31	9.18	5.64	2.42	0.81	100.00
Kerala	0.78	0.47	1.55	2.48	4.54	4.65	9.15	15.97	18.45	17.20	11.94	8.99	1.55	2.48	100.0
Madhya Pradesh	0.45	0.23	0.68	2.42	3.48	6.97	13.71	17.74	17.74	16.89	10.15	6.74	1.36	1.55	100.00
Maharashtra	0.18	0.26	0.88	2.20	2.11	5.90	11.01	18.69	20.71	20.27	8.72	6.87	1.32	0.88	100.00
Manipur	..		.	0.90	..	2.70	7.66	18.47	21.62	32.89	11.26	4.05	0.45	..	100.00
Meghalaya	0.44	.		0.44	0.44	0.88	3.10	9.29	26.11	33.64	16.81	6.64	0.44	1.77	100.00
Nagaland	—	—	—	—	—	—	—	—	.	.	..	..	.	..	..
Orissa	0.74	0.89	2.53	3.42	5.65	11.31	16.37	20.09	13.84	15.92	5.36	2.98	0.45	0.45	100.00
Punjab	..	0.15		0.30	0.30	0.15	2.84	9.25	18.95	24.32	18.66	16.72	5.67	2.69	100.00
Rajasthan			0.49	0.65	1.96	3.43	7.34	13.21	22.02	22.35	13.54	11.09	2.61	1.31	100.00
Tamil Nadu	0.11	0.33	1.76	2.63	4.83	5.71	12.29	19.54	19.97	17.78	8.56	4.72	1.54	0.33	100.00
Tripura	.	..	0.53	2.14	0.53	4.81	10.16	18.72	23.53	24.61	9.09	3.21	2.14	0.53	100.00
Uttar Pradesh	0.11	0.11	0.34	0.90	1.91	4.32	11.88	21.75	21.91	20.07	10.54	4.54	0.95	0.67	100.00
West Bengal	1.26	1.46	2.33	3.88	5.53	8.36	14.37	17.67	17.67	13.59	8.25	3.88	1.36	0.39	100.00
Andaman and Nicobar Islands	—	—	—	—	—	—	—	—	..	.	..	..	..	..	..
Arunachal Pradesh	—	—	—	—	—	—	—	.	..	..	.	.	..	..	..
Chandigarh	—	—	—	—	—	—	—	.		.	.	..	.	..	..
Delhi	—	—	.		.	.		.	11.76	52.95	17.65	..	.	5.88	100.00
Goa, Daman and Diu		2.38	..		2.38	4.76	4.76	11.76	16.67	16.67	16.67	16.67	2.38	..	100.00
Lakshadweep	—	—	—	—	—	—	—		..	.		.	..	..	..
Mizoram	—	—	—	—	—	—	—	..	.	..		..	..	.	..
Pondicherry			.	..	.	3.85	11.54	30.76	17.31	13.46	17.31	3.85	1.92	..	100.00
All India	0.39	0.35	1.06	1.92	2.96	5.28	11.10	18.53	20.19	19.48	10.26	5.07	1.46	0.95	100.00

Note : .. negligible; — Not covered by survey.

Expenditure Classes (Urban)

State/Union Territory	0—13	13—15	15—18	18—21	21—24	24—28	28—34	34—43	43—55	55—75	75—100	100—150	150—200	200 and above	All classes
	Monthly per capita expenditure class (Rs)														
Andhra Pradesh	..	0.15	0.45	0.45	0 60	2 26	6.93	15 36	19 28	21.53	15 06	11.45	3 92	2 86	100.00
Assam	..	..	0.44	..	.	0 87	3 93	6 55	18.78	16.16	18.90	19.21	9 61	6 55	100 00
Bihar	0 20	..	0 41	..	0.81	1 22	5.09	10 59	17.11	21.60	18.94	15 27	4.28	4 48	100.00
Gujarat		0 28	.	0 28	..	1.40	3.64	12 61	15 69	27.72	18 49	13.17	4 76	1 96	100.00
Haryana	.	..	.	..	0.42	1.26	5 02	10.46	13.39	23 01	14.64	15.48	7.11	9 21	100.00
Himachal Pradesh	..		.	.	.	..	1 67		8.33	18.33	11 67	31.66	11.67	16 67	100.00
Jammu and Kashmir	..		.	0.20	0.60	2 81	7 63	16.87	26.30	22.29	9 84	9.84	2.61	1.01	100.00
Karnataka	..	..	0 27	0 54	0 81	2 98	6 23	14 37	13.82	24 40	14 36	13.01	5.42	3.79	100.00
Kerala	.	0 41	0.82	1 22	3 27	4 49	7 76	11.43	17 95	13.06	13.47	10 61	9.39	6.12	100.00
Madhya Pradesh	..	..	0 22	0 22	1.11	1.55	7 54	10 42	20.62	23 28	16 63	18.42	2.22	3.17	100.00
Maharashtra	0 10	0 10	0 10	0 52	0.73	2 52	4 93	8.81	12.07	16 59	16.80	17.74	9.86	9.13	100.00
Manipur	..	..	..	.	.	..	.	13.21	13.21	33.95	22 64	13.21	1.89	1.89	100.00
Meghalaya	..			.	..		.	3.92	1.96	25.49	9.80	23 53	13.73	21 57	100 00
Nagaland	..	.	.	.	.				3.45	13 79	24.14	34.49	13.79	10.34	100.00
Orissa	.	..	..	0.92	1.38	4.15	6.45	17.51	11.06	14.75	15.21	18.90	2 30	7.37	100.00
Punjab		..	.	.	.	..	1 90	6.46	15 59	22 06	19.77	18.63	8.75	6.84	100.00
Rajasthan	0 31	..	..	..	0 31	1.55	4.33	12 69	14 86	26.33	14.55	16.10	4.33	4.64	100.00
Tamil Nadu	0 13	0 54	0.13	0 54	1.08	4 30	5 38	14.92	22 04	20 03	12.77	11.69	3.90	2.55	100.00
Tripura	.	.	..		.	.	.	4.76	19.05	33.34	21 43	4.76	9.52	7.14	100.00
Uttar Pradesh	0 12	0.12	0 23	0.23	1.15	2.19	7 27	16 38	18 69	21 44	13.73	11.07	4.15	3.23	100.00
West Bengal	0 54	[illegible]	0 68	0 27	0 95	1.35	3 51	8 92	9 59	19.46	19.73	20.68	8.38	5.81	100.00
Andaman and Nicobar Islands	..	..	..		.	.	..	..	—	—	—	—	—	—	—
Arunachal Pradesh	.		..	..	.	..		..	—	—	—	—	—	—	—
Chandigarh	..	.	..	..	..	..	.	.	8.33	12 50	16.67	12 50	12 50	37.50	100.00
Delhi	..	..	0.60	.	1.20	6 60	1.20	7 19	16.17	22.75	17 96	17.96	6.59	7 58	100.00
Goa, Daman and Diu	..	..	..		..	.	4.35	..	21 74	26 09	4 35	34.77	8.70	..	100.00
Lakshadweep	..	..	..	..	.	..	.	—	—	—	—	—	—	—	—
Mizoram	..	..	.	.	..	..	..	—	—	—	—	—	—	—	—
Pondicherry	...	..	..	..	..	3.23	6 45	12.90	29.03	22.58	16.13	3.23	..	6.45	100.00
All India	0.13	0 15	0.28	0 36	0 85	2.26	5.27	12 05	16 27	20 85	15.96	14.70	5.[illegible]	[illegible]	100.00

Note : .. Negligible ; — not covered by ...

Source: All-India Income Tax Statistics 1979-80. Directorate of Inspection, Department of Income Tax, Government of India, New Delhi.

The foregoing figures disclose that the total number of income tax assessees for the year 1979-80 account for a little over 1.8 million. This means that out of a population of approximately 700 million, the total number of persons from whom income tax is collected is only approximately 1.8 million. Out of this nearly 75 per cent of the tax is paid by those whose assessed income is Rs. 100,000 and above, and the number of such assessees is only 34,607. It is pertinent to note that the assessees whose annual taxable income is Rs. 500,000 and above and who pay 65 per cent of the total taxes number hardly 3,245 in the whole population of India. This figure shows how many individuals and corporate houses more or less control the entire economic activity. The other assessees, who mostly belongs to fixed inomee groups, such as government servants and employees to the private sector, professionals and small traders, fall within the range of income, that is below Rs. 50,000 per annum and their number comes to 1,696,567 or 93 23 per cent of the total number of assessees accounting for only 18 per cent of total income tax collected. Although these persons play a contributory role in the economic activity of the country, they cannot be said to really regulate or control this activity

(Next Issue. Monstrous Growth of Black Money)

Record production by Hindustan Zinc

With the better availability of power supply to Company's Rajasthan-based units, Hindustan Zinc Ltd., units have achieved all time high record production during the year 1983-84. As a result, the loss suffered last year has been converted into net profit for the year ending March 31, 1984, according to the quick estimates made so far.

Metal production-smelters

Set to produce 31,500 tonnes of zinc in 1983-84, Zinc Smelter, Debari produced 32,540 tonnes which is 103 per cent of the target and 72 per cent of the capacity utilisation during the period under report. A significant factor in zinc production at Debari has been the record capacity utilisation of 94.5 per cent during the period August 1983 to January 1984 when power supply was near normal

Vizag Zinc Smelter which had a target to produce 23,500 tonnes of zinc during the same period, produced 21,216 tonnes which works out to be 90 percent of the target and 71 percent of the capacity utilisation. Cumulatively, 53,756 tonnes of zinc has been produced during 1983-84 against a target of 55,000 tonnes. Compared to last year, the increase in zinc production during the current year is 23 per cent.

Total zinc production of 53,756 tonnes is an all time record production achieved so far and corresponds to 98 per cent of combined annual target and 72 per cent of combined capacity utilisation.

In case of lead, Tundoo Lead Smelter in Bihar produced 7,272 tonnes of primary lead against a target of 7,000 tonnes for the year 1983-84 i.e. 104 percent of the target. The Vizag Lead Smelter. during the same period, produced 8,147 tonnes against a target of 11,000 tonnes which corresponds to 74 per cent of the target achievement. Total primary lead production during 1983-84 has been 15419 tonnes which works out to be about 86 percent of the target and 70 per cent of the capacity utilisation. Compared to the production last year, the increase in primary lead production has been over 4 per cent during the year under report.

Silver production during the year 1983-84 by Tundoo and Vizag Smelters was 18.3 tonnes against the combined target of 21 tonnes. This represents 87 percent of the targetted production

Production—mines

At Zawar Group of Mines 64,600 tonnes of zinc concentrate and 22,400 tonnes of lead concentrate were produced during the year against the target of 64,500 and 20,100 tonnes which mean 100 per cent and 111 per cent achievement of the targetted production and 97 percent of capacity utilisation.

Similarly, at Agnigundala mine, lead concentrate production achievement has been 89 per cent of target. Though Rajpura Dariba Mine in Rajasthan and Sargipali Lead Mine in Orissa commenced trial production during the year 1983-84, even then Rajpura-Dariba Mine produced 18,900 tonnes of zinc concentrate against the target of 22,780 tonnes and 7,400 tonnes of lead concentrate against the target of 7,490 tonnes which correspond to 83 per cent and almost 100 per cent achievment of the targets respectively.

Similarly, 4,700 tonnes of lead concentrate was produced at Sargipali which is 87 percent of the target.

Total lead-zinc concentrate production during 1983-84 has been 1,22,627 tonnes compared to the combined target of 1,24,395 tonnes which corresponds to 99 per cent of the cumulative target. In comparison to last year, the increase in lead-zinc concentrate production has been over 51 per cent.

At Maton Mine the ore production, total excavation, milling and rockphosphate concentrate production during the year 1983-84 have been 102 per cent, 94 per cent, 80 per cent, and 77 per cent annual target respectively. Quantitywise, Maton Rockphosphate Mine produced 88,760 tonnes of are, milled 70,880 tonnes and produced 39,630 tonnes of concentrate. □

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Food and nutrition : Some facts

Three main cereal crops provide the basic food for most of mankind, whether directly or converted into meat and dairy products. We reproduce below some facts about their production (1979 figures).

Food production

Main producers

Wheat : 441 million metric tonnes	USSR 27%	U.S.A. 11%	China 10%	India 7%	France 5%	Canada 5%	Australia 4%	Turkey 4%	Othe 27%
Rice : 376 million metric tonnes	China 35%	India 29%	Indonesia 7%	Bangladesh 5%	Thailand 4%	Japan 4%	Burma 3%	Vietnam 2%	Othe 18%
Maize : 363 million metric tonnes	U.S.A 49%	China 9%	Brazil 4%	Romania 3%	S. Africa 3%	Argentina 3%	Mexico 2.5%	France 2.5%	USSR 2%	Othe 22%

Food and population 1950-1980

1950 to 1971 was an era of unprecedented growth in food production · yields on existing cropland were raised dramatically by energy-intensive agriculture. Since 1971, however, gains in output have barely kept pace with population growth.

Year	Population (billions)	Grain Production (million metric tonnes)	Grain Production per head (kilograms)
1950	2.51	631	251
1960	3 03	863	285
1970	3 68	1137	309
1971	3.75	1237	330
1972	3 82	1197	314
1973	3.88	1290	332
1974	3 96	1256	317
1975	4.03	1275	316
1976	4 11	1384	337
1977	4.18	1378	330
1978	4.26	1494	351
1979	4.34	1437	331
1980	(prel.) 4.42	1432	324

Undernutrition in developing countri

FAO estimates that about one quarter of t people in the developing countries are undernouris ed, three-quarters of whom are in the Far Ea Twelve countris suffer ffrom undernourishment a vast scale : India (201 million), Indonesia (million), Bangladesh (27 million), Nigeria (million), Brazil, Ethiopia and Pakistan (12 milli each), the Philippines (10 million), Afghanistan million), Burma, Colombia and Thailand (5 millio More than 40 per cent of the populations of Ethiop Chad, and Haiti are undernourished.

	Africa	Latin America	Near East	Fa Eas
Population in millions*	320	317	192	10
No. of undernourished (in millions)	72	41	19	3
Percentage of undernourished	23	13	10	
Daily calorie deficit in 1,000 millions	52	30	15	2

*Data based on information for 86 developing countri for 1974-76.

(Courtesy : UNICEF New

GRAMMAR OF PLANNING

Serialisation 8

P.R. Dubhashi

The substance of planning

In the last chapter, the author highlighted the various aspects of project planning, among others, the identification of project, selection of location, market demand and preparation of project reports. Here he discusses the substance of planning which consists of programmes of production and distribution in the primary, secondary and tertiary sectors of the economy. Planning for each sector has to be carried on in the fullest details integrating technical, economic and organisational aspects, he adds.

THE SUBSTANCE OF PLANNING consists of programmes of production and distribution in all the three sectors of the economy. They are directed towards the realisation of goals of planning, viz., greater production and employment and more equitable distribution. Greater production is sought to be accomplished by augmenting the supply of factors of production involved in the production process and by raising the productivity of these factors by the application of new knowledge made available by research, i. e., by the application of science and technology, and by better organisation in the form of a variety of institutions.

Primary sector

The sector of primary production consists of agriculture, animal husbandry, fishery, forestry, sericulture, etc. Agricultural sector is rightly considered basic to planning for economic development. As Barbara puts it, though agriculture and industry are essentially interdependent—Janus head of a single productive process the launching pad is agriculture.

The factors of production for agriculture include soil and water resources, manpower, bullock power and mechanical power, in addition to solar energy and inputs consisting of seeds, fertilisers, pesticides and implements.

The soil has various characteristics which are suitable for different crops and one of the objectives of the scientific agriculture research is to prescribe a cropping pattern which is suitable to the agro- climatic conditions. Secondly, the soil needs to be developed, reshaped, and reclaimed, wherever necessary, either by the application of chemicals or by drainage.

The water resources, firstly, consist of suface water which is harnessed through irrigation projects—major, medium and minor—like dams, diversion weirs, bunds, etc. The major irrigation dams consume substantial plan resources but are reckoned amongst spectacular achievements of planning. Thus Khuzistan, a vast desert valley along Iran-Iraq border, has begun to bloom again, thanks to the construction of a mighty dam storing the water of the Dez river. Mighty irrigation projects like Bhakra-Nangal, Tungabhadra and Nagarjunkonda are the 'temples of Modern India'. The sub-soil water is harnessed by dug wells or bore wells, fitted with pumps which are serviced either through bullock power, diesel pumps or electric pumps.

The agriculture inputs are sought to be improved by high-yielding and hybrid varieties of seeds. In recent years, there has been a break-through in agriculture through a genetic revolution brought out by the so-called miracle seeds like mexican varieties of wheat, such as sonora sonalike, choti lerma, safed-larma, larma Rozo, or U.P. 301; improved variety of millets like CHS series of jowar, improved varieties of rice like I.R.8, I.R.20, etc., or improved varieties of cotton like hybrid 4.

New types of fertilisers and pesticides are also being manufactured. This is the chemical revolution in agriculture. For a long time, traditional agriculture depended on compost and green yarn manure which could contribute only limited amount of nitrogen or other nutrients to the soil. Chemical fertilisers are able to contribute more effectively to the building up of productivity of soil. The chemical fertilisers, however,

have different contents of nitrogen, phosphorous and potash and these different combinations have to be applied according to the deficiencies in the soil as found through soil analysis conducted at the soil testing laboratories.

The input of seeds, fertilisers or pesticides, development and reclamation of land and construction of wells require a large amount of investment which the farmers may not be able to meet out of their limited incomes which are rendered uncertain through season's variations. Financial institutions are, therefore, required to give the necessary amount of short term, medium term and long term credit. The financial institutions may either be cooperative or commercial banks. A network of agencies for the distribution of input and credit reaching down right to the village level are required to service agriculture.

Inputs and incentives

Agriculturists also must have necessary incentive. The two I's inputs and incentives are equally important. The incentives are to be provided by the market for agricultural products. Hence, marketing and processing institutions are required. Where there is a public distribution system, substantial part of surplus production may be bought by public agencies. They must, however, offer reasonable return or else farmers will withhold production and the long term effects may be damaging to agriculture. The policy to squeeze agriculturists of their surplus at low prices for industrial development adopted in the early years of Soviet economic development, known as war communism, did long-term damage to Soviet agriculture.

In a socialist economy, even land as a primary means of production can be socialised through the cooperatives, collective or State farms. The Russian State farms (Sovkhozis) or Collective farms (Kolkhozis) are of a giant size—each a thousand of acres. They are described as veritable grain factories. Forty years after Stalin socialised Russian agriculture, Soviet farming has embarked upon another major scheme of reorganisation. The so-called Brezhnev Plan was outlined in the Communist Party plenum in December 1973.

According to the scheme of reorganisation, collective and state farms were to give way to larger and more integrated 'rural units' with increased specialisation in livestock, breeding, fodder production and other food output. These large farm conglomerates would be integrated structures around bigger farm 'townlets'. The new farming system would also have to accomplish social tasks. They would be large self-supporting rural communities better provided with health and recreational services.

Collective agriculture

The Israeli forms of collective agriculture are perhaps the most successive examples of collective effort inspired by a revolutionary fervour. In Kibutz, the entire land and means of production are socially owned and managed. Even the children are brought up together and there is a common kitchen and dining hall. In Moshav Shitufi, the cultivation is individual but collective services are made available. In between stand the Moshavs.

However, not all socialist countries have socialised agriculure though they might have socialised industry or distributory trade. The difficulties in socialising agriculture arise out of the facts that the number of units of agricultural production are large and scattered and the traditional attachment of the farmer to his land is deep rooted. In such conditions, it is felt much better to allow the private individual units of production, to continue but at the same time provide farmers, particularly the smaller and marginal farmers with extension facilities and organise them for the purposes of supply of services and credit into cooperative institutions.

However, if agriculture is not socialised, other agricultural changes are needed. Agricultural reforms needed for liberating the farmers from the clutches of landlords and money-lenders or other intermediatory interests are considered to be indispensable. This is achieved through legislation for the aboliton of landlordism and system of protective tendency and making it possible for tenants to secure their ownership rights. Japan is a successful example where agriculture is modernised retaining individual cultivation while providing services through multipurpose cooperatives.

Like agriculture, dairy industry can also be organised on a cooperative basis or it could form the activity of the State. AMUL in Gujarat has provided a successful pattern of cooperative dairying in India.

Animal husbandry plans

Animal husbandry resources consist of cows, bullocks, buffaloes, sheep, poultry and other animals. Cattle are required to provide bullock power where mechanical power is not available and for dairy development. Dairy and other animal husbandry occupations can provide a useful supplement to agriculture or they could be developed as independent occupations in their own right. The animal husbandry programmes consist of scientific breeding, weeding, tending and feeding. Breeding through artificial insemination has become an accepted programme of scentific anmial husbandry. But this again requires organisation in the shape of series of artificial insemination centres whose services are readily available to the farmers. At the same time, indiscriminate breeding has to be eliminated by castration of scrub animals. The feeding programme must be based on the growth of nutritious grasses like lucern and burseem and preservation of grass through silage method. The animals are liable to be affected by severe diseases like Rinderpest and foot and mouth dieseases and need to be protected through inoculation. These services are to be provided by veterinary dispensaries.

The development of poultry and sheep, like the development of cattle, has also to be based on a programme of scientific breeding integrated with other activities like improved breed, prevention and protection from diseases, technical supervision and marketing. Thus, among the superior breeds of poultry are Rhode island, which is a meat variety, and white leg

horn, which is recommended for eggs. New techniques like deep litter methods have also to be widespread.

In sheep breeding, exotic varieties like marino rams are used for cross breeding purposes. The shepherds are normally a wandering lot and their training and organisation has to be a special effort.

Horticulture development

Horticultural development requires a vigorous programme of supply of seedlings, arrangement for marketing of fruit, cold storage, dehydration, protection of crop from disease, introduction of techniques like grafting, budding, etc. The horticultural development requires long range planning because of the time taken for the growth of plantations of fruits like coconuts, arecanuts, mangoes, and apples. Fruit and vegetable development is a significant part of development planning because of their contribution to raise the levels of nutrition. Horticulture may either be an integral part of agricultural activities of a farmer with some portion of land devoted to fruit or vegetable or it may be an independent enterprise in itself.

Fisheries can be either island or marine. Here, as in other sectors of agricultural activity, development planning would include introduction of new technology, including use of nylon nets and trawlers for deep sea fishery, augmenting fishery development in tanks by induced breeding, arrangement for cold storage and transport, organisation of fishermen into cooperatives, marketing and processing of fish, setting up bone-meal plants, etc.

The planning for the production of milk, eggs, fruits vagetables and fish has to be linked with nutritional planning so that the poor, vulnerable sections of the community who find protective food beyond their purchasing power are able to secure it through a programme of free or subsidised supply.

Like horticulture, afforestation and plantation also require long range planning. Afforestation is particularly significant for a country's economy from the point of view of maintenance of ecological balance. Destruction of forest can lead to large scale erosion of soil and silting of tanks with disastrous effects on economy. In addition to the protection of natural forest, attention has to be paid to the building up of artificial forests, as in Japan where in spite of population pressure, nearly 75 per cent of the area is under forest.

Plantations of tea, coffee, rubber are of the nature of industrial enterprises. They require considerable investment and they are considered to be bankable propositions.

The agenda of agriculture planning should consist of the following programmes of action :

1. Fundamental and adaptive research.
2. Extension of the research to individual units of production.
3. Supply of agricultural inputs and credits.
4. Development of agricultural productivity through investment in irrigation, electrification and mechanisation.
5. Provision of infrastructure facilities like road, communication and storage.
6. Incentive through pricing policies and marketing and processing facilities.

Through these programmes, it is possible to transform traditional agriculture with stagnant income and low productivity into modern dynamic agriculture with rising productivity.

Secondary sector

Industrial planning has to be considered for various sub-sectors of industry like large scale industry, medium industry, small industry and rural industry. The industrial development depends on mobilisation of capital, supply of raw material, availability of necessary machinery and plants and technical manpower. Various services like designing, marketing, credit and insurance, and organisation and incentives have to be provided.

Industries in fields like steel, coal, ship building, locomotives, airplanes are so large that even in non-socialist economies they are owned by the state. The plan should include proposals carefully worked out for each public sector enterprise, estimate of its investment, employment, output, potential benefit, financial or otherwise, etc. Where private sector is fairly large, similar specific targets, industrywise, may have to be worked out for private sector enterprises also since the rate of economic development depends more on what happens in the private sector than it does on expenditure in the public sector.

Planning of small scale industries is normally left to individual entrepreneur. But they require considerable promotional assistance by public agencies and banking institutions, like necessary allotment of raw-material and finance and technical supervision.

Industry and agriculture are interlinked in a huge process of agro-industrialisation, penetrating to the depths of the economy. Thus, industry demands agricultural raw materials while agriculture requires industrial inputs like fertilisers, pesticides and implements.

Tertiary sector

Both industry and agriculture need various facilities of the tertiary sector, mainly supply of power, transporation facilities and banking services which also need to be planned in an integrated manner.

Power planning has to be a long-term proposition. Power plants take years to complete. They have to be so planned that supply of power keeps pace with demand. The demand for power in developing economy increases at an increasing rate and if it is not planned in advance, power can be a basic constraint of economic development. Power projects can be either hydro-electric or thermal or atomic. Since hydro-electric projects cannot work to full capacity when

rains fail to fill up the reservoirs, thermal power has to fill in the gap. Generation of power has to go hand in hand with the planning for the transmission of power and, in the drive for improved productivity, elimination of transmission losses has also to find a place.

A key role

Transport plays a key role in economic development. Economists like Kindleberger accord it a central role. Economic historians like Lilian Knowles have pointed out that transport played a key role in the commercial and industrial revolution of Great Britain and other advanced countries. Transport can take place either by railway or by road through trucks or through boats across rivers or canals. While railway carriage is normally a state monopoly, road transport is in the private sector. But planning for transport arrangement on any of the three routes depends on planning for the manufacturer of rail carriages or trucks.

Planning for banking development has to take into account rising income and consequent increase in potentialities for deposits and advances for agriculture and industry. Banking institutions tend to be concentrated at the metropolitan centres and deliberate planning is required to direct them to new and developing areas which for the moment may appear to be backward. A systematic programme of branch expansion is, therefore, essential.

Social infrastructure

If roads, transport, irrigation, power projects and electrification provide the economic infrastructure, education, health and housing provide the social infrastructure. The educational system has to provide universal primary education, secondary and higher education and technical and vocational education. Education may be an end in itself but it is the educational system which has to provide the reservoir of manpower, with requisite knowledge and skill for economic development. The plan has, therefore, to ensure that the economic development dose not suffer in the absence of manpower of right quantity and quality and at the same time see that educational system does not throw up products which cannot readily be absorbed in the economic system, thereby giving rise to the phenomenon of the "white collar unemployment". The traditional educational system evolved by the erstwhile colonial rulers of developing countries may not quite be appropriate to the tasks of economic development. In particular, there is need to correct the bias of the educational system towards purely liberal education. Technical coures in argriculture and industry and vocational courses are needed for scientific agriculture and technological change.

Health, like education is an end in itself as well as a means of economic development. Health manpower is also more productive. Sickness interrupts production and by sapping energy reduces productivity. But by sharply reducing mortality rate as compared with the birth rate, measures for health improvement tend to raise growth of population rather sharply. Health programmes would involve both preventive and curative measures.

Among the preventive measures are included provision of drinking water supply, environmental sanitation and immunisation. In most underdeveloped countries even safe, potable water supply is not available to many rural communities. Obviously, this is the first charge on any development budget. The curative services are not available even to a minimum possible extent. Medical personnel tend to concentrate in cities, leaving rural areas to the mercies of quacks. Hence the need for setting up rural health centres. The advanced countries have already provided comprehensive health insurance schemes. It could be a long time before anything of that standard of health service is set up in underdeveloped countries.

Housing may have less urgency and expenditure in tropical countries compared with cold countries. But in most developing countries, it is so inadequate as to require huge investment. The housing problem can be dealt with to a small extent by public housing but bulk of the housing has to be private and supported by institutional finance.

With the migration of rural poor to the cities, the latter suffer from slums and overcrowding and city housing becomes an important matter of public policies and programmes. Slum clearance schemes find a place in planning but the problem cannot be tackled without a wider set of economic measures directed towards dispersal of industry and employment opportunities.

Thus, planning for each sector or sub-sector of the economic activity has to be carired on in fullest details integrating technical, economic and organisational aspects.

(Next issue : The organisation of planning)

Sino-Indian trade agreement

INDIA AND CHINA have recently signed a new trade agreement in Beijing. The agreement has been hailed by both sides as leading to greater cooperation between the two Asian giants

India's trade with China was resumed in 1977 on a modest scale after a total disruption of over 15 years. As both countries took steps to normalise their relations over the past few years, the issue of trade came to the fore, although the border question remained unresolved. But in the absence of a framework, the Sino-Indian trade lacked a clearcut perspective to achieve a targeted objective. For the first time, the framework has been provided in the new trade agreement.

Under the agreement, a wide range of commodities have been covered to include ferrous and non-ferrous ores, sugar, shellac, tobacco, raw cotton, medicinal herbs, finished leather and light engineering goods.

Among the significant items that India would be able to export to China are machinery, instruments, equipment and tools, besides complete plants for cement, sugar and textiles.

Gas in your tummy?

Dr. Rakesh Tandon

The gas trouble is indeed very common; functioning every third patient consulting a physician has this complaint. One of the aims of the treatment of this belly malfunctioning should be to ensure normal bowl functioning. This can be achieved by providing the patient a high fibre diet, a diet with a fair amount of roughage, says the eminent physician.

GAS, GURGLING, FLATULENCE, flatovent, burping, belching, bloating, and distension are only some of the terms used by patients to describe their "gas trouble". Distinction between these terms are often neither appreciated by the patients nor by their treating physicians. An all encompassing word, turbulence, was coined by a great contemporary American poet, Ogden Nash, to cover all these 'windy' conditions while composing the following verse :

> **"How do I feel today ? I feel as unfit as an unfiddle. And it is the result of certain turbulence in the mind and an uncertain turbulence in the middle.'**

(Marriage Lines, p. 64, Aldine Press, Letchworth)

Prima facie, these symptoms sound rather trivial but they can be very incapacitating to the patients. It is their persistence and frequent recurrence that bother the patients. Besides the physical discomfort caused by "gas", the patients suffering from it are apprehensive of the social embarrassment, caused by increased passage of gas per rectum, i.e. farting or flatus. Since farting has acquired over the years a connotation of rudeness, flatus is the preferred term.

The gas trouble is indeed very common; every third patient consulting a physician has the complaint. And, it has certainly been recognised for a very long time since remedies for it are mentioned abundantly in Ayurvedic literature. Indeed, air in the body *Vatah* is considered as the most important of the *Tridoshas*, imbalance of which is the cause of all diseases. The other who are *pitah* and *Kapha*. Some of the indigenous medicines and choorans may help, but for a rational treatment a scientific analysis of the gas and an understanding of the mechanisms of its production are essential.

Volume of intestinal gas

The intestinal tract of a fasting individual contains less than 200 ml gas; he passes flatus about a dozen times a day, the total amount of gas discharged per day averages to about 600 ml. There is, however, a wide variability in the quantity and frequency of flatus passed by individuals; diet being the most important determinant. There are patients who are unable to digest milk properly; they tend to have a 'gassy abdomen'. Green vegetables such as cabbage, sprous, spinach and, most importantly, beans tend to produce an excess of gas. Therefore, people who are used to taking these kinds of foodstuffs have more gas in their hollows than other have.

About two-thirds of the gas in the abdomen is swallowed and the rest is produced in the intestines from two sources : one by bacterial fermentation of food residue, and the other by diffusion from the blood into the intestines.

Composition of gas

Intestinal gas is a mixture of five gases, viz. nitrogen, carbon dioxide, hydrogen, methane and oxygen, in the order of decreasing concentration. The relative proportions of these gases vary depending on three main factors : (a) the amount of swallowed air, (b) the type and amount of intestinal bacteria, and (c) the diet.

(a) **Swallowed air** : About 2-3 ml. of air goes down your food pipe with each swallow. Most of it is burped out but a small portion of it passes down the intestines. Swallowing of air is very much increased in a state of anxiety or when there is a painful throat or chest. Also, chronic chewers of tobacco, betel nuts, pan-masala or chewing gums are prone to swallowing more air than others. The swallowed air contains mostly atmospheric nitrogen and, therefore, its passage is odourless.

(b) **Bacteria** : Carbon dioxide, hydrogen and methane are the main gases produced by bacterial fermantation of food residue. Different bacteria produce different proportions of these gases and the flora is determined mostly by the kind of food the individual takes .People living in certain parts of the world such as India where personal hygiene is generally poor, may be harbouring more bacteria in their intestines than others. Such individuals are likely to produce more "gas".

Certain inherent defects in an individual could also lead to the growth of a particular kind of bacteria in the intestines and hence the production of a specific type of gas. For example, the production of methane seems to run in families, and it is this gas that produces the most offensive and obtrusive kind of flatus. It is methane that also is responsible mostly for floating stools.

(c) **Diet:** Carbohydrates are generally totally absorbed in the intestines but in cases where a specific carbohydrate is not fully digested, the undigested sugar forms a good substrate for bacterial fermentation and gas production. The best example is of milk sugar (lactose) in certain adults who do not have the power to digest it. This loss of digestive power could also develop temporarily after an episode of gastroenteritis or any other acute intestinal infection. Similarly, legumes like beans contain indigestible forms of carbohydrates, viz. raffinose and stachyose, which are fermented in the large intestine by the action of bacteria and lead to significant gas production.

Clinical disorders

They incude burping, aerophagy, belching borborymi, distension, and pain in the abdomen and excessive gas formation and passage of flatus.

Burping is the term given to noisy eructation of air under voluntary control. This happens secondary to sucking of air, and is commonly seen in infants sucking in milk from the bottle. Indeed, the mother is advised to put the child in an upright posture after each feed to encourage burping. Often adolescents learn the trick of burping and use it as a means of fun. In others, especially adults, this could either be the results of fast eating, gilping in large quantities of food and with that some air, or due to an under lying nervous. An usexpected onest of burping could, however, indicate a medical problem such as cardiac ischaemia and should not be ignored.

Aerophagy : As implied by the term it refers to swallowing of air but it is in fact sucking in of air by gulping action. This occurs frequently in individuals under nervous stress. The swallowed air distends the abdomen, make the individual uncomfortable and is follow by burping.

Individuals sucking air during sleep are helped by a change of sleeping posture or by using an extra pillow during sleep.

Belching : Belching is a sudden, noisy and involuntary release of air from the stomach. Individuals, who are not able to burp out the "swallowed" air easily end up with belching which is not under their control. The unexpected explosive release of air can cause the individual much embarrassment. It, however, does not indicate any underlying disease.

Borborygmi : Many individuals, particularly the as thenic type, are sometimes aware of gurgling in the abdomen. This is because of the movements of th intestines which contract regularly. In states of poo digestion, large amounts of unabsorbed carbohydrat reach the lower portions of the intestines. As a re sult hydrogen and other gases are produced. Thus stimulate further the intestinal movements.

Large intermittent gurgling with visible peristals over the abdomen may be a sign of intestinal ob struction. This has to be seen and evaluated by physician because this may require an active medic or surgical intervention.

Passage of flatu

The various causes of excess gas production i the abdomen have already been alluded to. Of these carbohydrate malabsorption, particularly the inabi lity to digest lactose, i.e. the milk sugar, is the com monest cause leading to excess production of hydro gen and other gases. Methane, as mentioned above is perhaps the most offensive of all gases.

Bad odour from mouth is most commonly due to exhalation of short chain fatty acids. These are by products of fat produced during its digestion. Such individuals should be advised to reduce their fat in take. Adding fibre, such as bran, in the diet and also giving neomycine by mouth can significantly reduce the bad odour of their stools and flatus. Beans and other vegetables that are known to produce excess of gas should be eliminated from the diet in case the patients has the complaints of excess passage of flatus.

Distension & abdominal pair

Abdominal distension in our community is most often due fat or fluid in the abdomen or an organ enlargement. Certain intestinal infections, particularly giardiasis and certain diseases like gallstones and emphysema of the lungs can produce gaseous distension. If these have been excluded, then "gas" could be the reason. Swallowed air can get trapped in the upper part of the stomach and intestines, and cause discomfort and distension of the abdomen. This is called "gas-bloat" syndrome.

Similarly, gas produced in the intestines may get troppled in one of the recesses of large intestine called the splenic flexure and produce distension and pain. This is called "splenic flexure" syndrome. It is caused by spasm of the large intestines which may be relieved spontaneously, or with drugs as mentioned below.

Bloating of the abdomen with air can also occur in the young as well as elderly people habitually towards the evening. This does not require any specific treatment. Simply lying down in a resting posture would suffice.

Treatment : Explaining to the patient the mechanism of production of gas in the abdomen as well as the reasons for passage of excess flatus goes a long way in relieving the anxiety of the patient Other measures for reducing the gas production have

(Continued on page 34)

Exports for economic development

International Trade and Export Management by Francis Cherunilam; Himalaya Publishing House, Dr. Bhalerao Marg, Bombay .. Pages 463. Price Rs. 125.00

FOREIGN TRADE IS an important component of India's economic structure. Ever since the country launched economic planning, the parameters of import and export trade were intermeshed in the various targets of growth in our five year plans with a view to make foreign trade as not only an engine for economic growth but also as a substantial contributor to the development process. India's external policy is an attempt at making exports and imports as supporting factors for economic development. The policy is subjected to a continuous review both by the government and the concerned parties involved. Such a review helps in appraising the strong and the weak points for assessing what needs to be modified in the change environment, both internal and external. The exercise becomes useful for laying down trade policy on a sound footing.

The book under review is a well-brought out compendium on export trade and all that is covered under it. Export marketing has become challenging in the face of international competition, both from the developing and the developed world. Divided into three parts, the book discusses the various theoretical tenets of export trade and these are highly useful for getting a firm grip over them so that a sound export policy may be evolved and practised. The topics dealt with are the basis of international trade, gains from trade, terms of trade, balance of payments, trade barriers, foreign exchange and control, trading blocks and groupings, agreements, Eurodollar market and the international bodies functioning. Although these are subjects for a textbook but their inclusion has enhanced the value of the book. More so because the chapter on trading blocks gives updated material on the functioning of the various international organisations.

Over the years, India's trade with EEC countries has assumed greater significance. About 40 per cent of India's exports enter the EEC market duty free and 35 per cent of her exports are covered by the GSP. Since India's utilisation of duty free quota has not up to the mark, the demand for increasing the quota seems to be untenable. The author is of the view that "there is a tendency to exaggerate the protectionist threat and to overlook the opportunities available. In fact, but for the existence of the quota system, Indian exporters would have been driven out of the EEC markets by the more competitive countries of the Far East and by Brazil."

The second part of the book is concerned with foreign trade and commercial policy of India. In a historical retrospect, there is a resume of India's foreign trade since 1951 along with an analysis of performance on export front. India has achieved considerable diversification in her exports, both product-wise and region-wise. The growth of engineering goods exports has been very spectacular, rising from 2 per cent in 1960-61 to about 15 per cent in 1983-84. Silver, gems and jewellery have recently emerged as important export earners for India. The export value of leather and leather manufactures went up by nearly three times in the last decade. Though there has been a significant growth in the export of non-traditional items, a number of traditional items continue to have considerable weightage in India's exports. In fact, even a marginal decline in their exports will cause substantial loss of foreign exchange. While manufactured products, machinery and transport equipment provide the core of our future exports, it would have been useful if the author had also dealt with the relevance and significance of agricultural exports in future. Topics like project exports, joint ventures, import substitution, etc., are more informative than analytical. There should have been a critical appraisal of performance in these areas.

The last part is devoted to export marketing management. There is an adequate description of the cybernetics of international marketing. As a marketing strategy, the produced has to care for modified communication about the product in foreign markets. The communication appeal used in the foreign markets would be quite different, depending on the particular product use that is promoted. As for pricing for export market the author argues that trade practices and regulations of overseas market must be accommodated. He prefers adoption of marginal costing for export price provided excess capacity exists.

The chapter on export finance gives a broad view of the various formalities to be observed with regard to the documents and procedures. A long-felt need of the export sector has been accomplished with the establishment of the Export-Import Bank in 1982. The book ends up with a number of appendices while bibliography and index are conspicuous by their absence. In sum, the last four financial years of the Eighties have witnessed an acceleration in the rate of growth of exports and a deceleration in the rate of growth in imports. The latest data show that the annual growth in the value of exports has been higher than the percentage growth of imports. In April-December, 1983 exports had 12.1 per cent increase and imports a mere 2.3 per cent. Earlier in 1980-81, our exports registered a 4.6 per cent increase and imports 3.7 per cent. It is clear that exports are rising faster than the rate of growth in the import bill and it is expeced that the growth in 1983-84 will be the same as recorded in 1981-82 over the previous year viz., 16.2 per cent. One new development in foreign trade is the increasing awareness for boosting farm exports. Items of farm exports are being identified and concerted efforts are being made to create exportable surplus in agricultural products. The basic problem in increasing

agricultural exports is one of raising productivity and diversifying the commodity-mix. In view of the very low yields in our country, requisite investments in the agricultural sector must be made to increase productivity. A long-term export policy for agricultural products needs to be drawn and it should provide for creation of buffer stocks so that even during times of crop failure, the commitments already made for exports could be kept without disrupting our domestic supplies.

Despite international recession and protectionist policies, the country has become an important exporter of highly sophisticated manufactures all over the world. Now greater emphasis is being placed on maximising domestic value addition rather than exporting commodities in the form of raw materials or semi-finished goods. While a lot of improvement is being made in product-mix of agricultural and industrial sectors, perhaps India could also consider switching over to a judicious system of barter with other countries for boosting foreign trade and international cooperation. The country's natural endowments of land and manpower should be fully exploited to increase export of goods produced, particularly with labour-intensive technology. Imperatives of economic growth demand that exports need to be regarded as one of the highest national commitments by the Government and the business. Production alone is not enough; better productivity will have a crucial role to play.

Navin Chandra Joshi

Low cost books

Books for All at Low Cost; National Book Trust, New Delhi; PP. 111; Rs. 15.

TO ALL EXTENTS, a souvenier in royal-size get-up enshrining complete report on the deliberations of an international Seminar held in New Delhi from 5th to 7th February, 1982, the volume under review offers a variegated set of write-ups relevant to its subject of "Books for all at low cost". The papers read by twelve dignitaries representing no less than nineteen countries of the developing as well as the developed world find befitting exposition in this book. They throw ample light on the international situation of book production from the angles of problems that arise, the difficulties that exist and the steps that are possible towards achievement of aims and objects for which the seminar was held.

The National Book Trust, India, as the votary and repository of book production at the national level, has had to its credit organised similar seminars during the last one decade. Coupled with the holding of World Book Fairs, almost every two years, under the good offices of the UNESCO, these endeavours of the Trust have gone a long way in eking out the best of the knowhow from the international book environs for improving its own image of performance. And in the larger interest of the nation its efforts have been of tremendous benefit in guiding the "Private Sector" to live up to the national need of books conforming to the economic conditions of the readers of all levels.

The volume deserves acclaim both for its contents and production qualities.

R. P. RAHI

(Continued from page 32)

already been mentioned and they include dietary manipulation, and a voluntary effort to avoid swallowing air.

There is a very poor correlation of the amount of air in the abdomen and the abdominal discomfort and bloating. The same amount of air can lead to discomfort to one individual while it may not bother in the least another person. The pain seems to be more because of abnormal contraction of the intestines rather than because of an excess of air.

The frequent observation that certain foods "turn to gas" in a patient may possibly be because of the tendency of these foods to stimulate abnormal motility of the gut rather than their ability to "gassify". Trapping of air in certain recesses of the gut, as mentioned above, are also results of abnormal contractions of the intestines.

Hence, one of the aims of the treatment should be to ensure normal bowel function and this can be best achieved by providing the individual a high fibre diet i.e. a diet with a fair amount of roughage. One of the best ways of providing roughage in the diet is by leaving the flour unrefined or unbleached, and perhaps by adding Isabgole (ispghula) in the diet. The roughage in the food improves intestinal motility and helps in proper stool formation and evacuation.

Drugs for relaxing the intestines or for reducing the spasm of the large intestines may also be helpful but should be used by the patients only with the advice of their treating physicians. There are certain popularly known drugs such as charcoal and simethicone which are known to absorb gas and have been recommered for treating flatulence. They are, however, of limited value because of the poor correlation mentioned above of the amount of gas and the patient's discomfort.

Lastly, physical exercise is of great help to the patients suffering from any form of turbulence. The jogging mania of the seventies if certainly good for both bowel and heart. In fact, the age old saying "after dinner rest a while and after supper walk a mile" should be modified now to "after dinner walk a mile and after supper twice the mile".

In the end, the following tips may be recommended for preventing the gas trouble.

1. Observing personal hygiene.
2. Maintaining normal bowel activity by taking adequate roughage in the diet (high fibre diet & Isabgole).
3. Avoid milk, very greasy food, and green leafy and root vegetable.
4. Avoid air swallowing, aerated bevearages and constant chewing.
5. Avoid anxiety states.
6. Regular physical exercise. □

(Based on a public lecture at the All India Institute of Medical Sciences)

Principal items of export in 1983-84

PEARLS, PRECIOUS AND SEMI-PRECIOUS STONES have taken the lead in Indian exports by fetching Rs. 1,199.76 crores in 1983-84, according to the available preliminary data. In 1982-83, the exports of this group were valued at Rs. 768 08 crores and ranked number two in the list of highest exports.

Crude oil has taken the second position in the last financial year accounting for exports valued at Rs. 1,111.36 crores as compared to Rs. 1,023.29 crores in previous year. The third position has been taken by readymade garments which show a 21 8 per cent increase at Rs. 588.41 crores in 1983-84 compared to Rs. 483 21 crores in 1982-83. These commodities accounted for almost one-third of the total exports which are provisionally placed at Rs. 9,396 15 crores.

Tea has emerged as the largest single indigenous commodity accounting for a 37 4 per cent increase in 1983-84 for exports valued at Rs. 500.85 crores as compared to Rs. 364 62 crores during 1982-83. Machinery including transport equipment accounted for exports valued at Rs. 476.18 crores as against Rs. 582 13 crores in 1982-83

Other commodities which did well include iron ore, leather and leather manufactures excluding foot-wear, fish crustaceans, molasses, cotton fabrics and chemical and allied products, handmade carpets, metal manufactures, cashew kernels, spices, works of art, and silk.□

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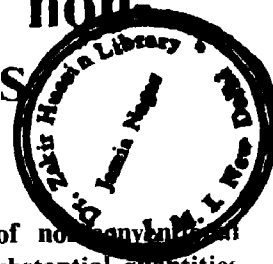
Energy generation from non-conventional sources

THE VARIOUS PROGRAMMES for exploitation of non-conventional sources of energy in the country are likely to generate and save substantial quantities of energy by the end of the current year. By the end of the century, the expectation is that 20 per cent of all energy will be available from non-conventional sources.

Growing concern for environmental protection and the rapidly increasing wastes resulting from population growth have lent urgency to the need for recycling of organic wastes. A few significant Research and Development projects have been undertaken like the one at Timarpur in Delhi where 3 745 MW of power will be generated from 300 tonnes per day of municipal solid waste.

A project is being taken up for generation of 6 MW of power from bagasse at a sugar mill in Tamil Nadu. Successful implementation of this project can lead to adoption of technology by other sugar factories resulting in generation of approximately 2000 MW power in the country from bagasse during the crushing season.

Projects for generation of biogas from sewage and production of electricity from biogas are operating at Padrauna in eastern Uttar Pradesh and in Patna.

Large sized biogas generation and utilization systems are being planned as part of the municipal sewage treatment, sludge digestion and utilisation of sludge and treated affluent for agricultural purposes in a large number of cities like Madras, Bangalore, Hyderabad, Vijayawada, Jaipur, Bhubaneshwar, Calcutta, Bombay and Ahmedabad. A proposal has also been prepared for cleaning up wastes of the Ganga and Yamuna through setting up of sewage treatment-cum-biogas generation systems at Varanasi, Agra, Allahabad, Mathura, Kanpur, Hardwar, Vrindavan and Rishikesh This will also help check the pollution of these rivers.

The programmes for transformation of agricultural residues into briquettes for cooking fuel or into power by using gasifiers are also being stepped up. □

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Public sector:
A different angle

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yojana

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Why sickness in industry ?

NEXT ISSUE

Voluntary Agencie
Special

Advanced electronic control range system

THE INSTRUMENTATION LTD., a public sector undertaking at Kota, will manufacture advanced electronic control range. Designated as CONTRONIC-3, the system will be manufactured in collaboration with a West German firm.

The project, likely to be completed in two years, will primarily meet the growing requirement of thermal power stations where complex control functions are involved. This control package is also suitable for certain applications in steel and metallurgical industries, cement plants and nuclear power plants.

Instrumentation Ltd. commenced manufacture of a few types of electronic process control instruments at its Kota plant in October 1968 with technical know-how from the USSR. It subsequently diversified further in 1969 to cater to much wider range of instruments required by steel plants and thermal power stations. Pneumatic instruments were introduced in 1971 for process industry.

With the establishment of National Thermal Power Corporation and a major programme for setting up of super thermal power stations, the situation has been changing fast. ILK has been able to some extent meet the stringent and complex technical specifications prescribed by the NTPC.

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Our Contributors

Anil Agarwal, Director, Centre for Science and Environment, New Delhi; S. K. Ray, a noted author on economic subjects, New Delhi; Vasant Sathe, Union Minister for Chemicals and Fertilizers, New Delhi; D. Janaki, Yojana Senior Correspondent, Madras; Prakash Tandon, former Chairman, State Trading Corporation of India, New Delhi; A. L. Roongta, Chairman and Managing Director; Rajasthan State Industrial Development and Investment Corporation, Jaipur ; P. R. Dubhashi, Director, Indian Institute of Public Administration, New Delhi; and Prof. Vera Hingorani, Head of the Deptt. of Obstetrics and Gynaecology, All India Institute of Medical Sciences, New Delhi.

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Environment : Beyond pretty trees and tigers

Anil Agarwal

The environment is not just planting trees and protecting animals, threatened plants and ecosystems. It is the entity on which we subsist, Our entire agricultural and industrial development depends on it, says the eminent author.

IT LOOKS AS IF environment is an idea whose time has come. Newspapers give prominent display to environmental horror stories. Editorials demand better management of our natural resources. Government statements on the need to preserve the environment are now commonplace. Government programmes too are quite numerous and increasing in number day by day. There are massive schemes for afforestation, for instance. In the last four years, some 1000 crore seedlings are said to have been distributed or planted. There are new laws for control of air and water pollution and for the conservation of forests. India has received plaudits all over the world for what it has done to preserve tigers. Nearly three per cent of India's giant land mass is now under protected national parks and wildlife sanctuaries.

But there is a major problem with this entire range of activities and concerns; it does not appear to be based on a holistic understanding of the relationship between environment and the development process taking place in the country. The programmes are ad-hoc, without any sharp priority and there is too much of a policeman's attitude. They seem to be based on the belief that concern for the environment essentially means protecting and conserving it, partly from development programmes but mainly from the people itself. There is little effort to modify the development process itself in a manner that will bring it in greater harmony with the needs of the people and with the need to maintain ecological balance, while increasing the productivity of our land, water and forest resources.

Life-giving entity

The environment is not just pretty trees and tigers, threatened plants and ecosystems. It is literally the entity on which we all subsist, and on which our entire agricultural and industrial development depends. Development can take place at the cost of the environment only uptil a point. Development without a concern for the environment can only be development for the short-term. In the long term it can only be anti-development and it can go on only at the cost of enormous human suffering, increased poverty and oppression. We may be rapidly approaching that point.

Amongst the hundreds of voluntary groups working at the microlevel within the country, there has been a remarkably rapid growth of interest in environmental problems. So rapid, in fact, has been this growth that sometimes we even loosely tend to describe it as the beginnings of an environmental movement in the country.

Environmental protection per se is of least concern to most of the groups. Their main concern is about the use of the environment : how should the environment be used and who should use it and benefit from it. It is this growing understanding of the relationship between the people and their environment, born out of a concern for a more equitable and sustainable use of the environment, that is probably the most fascinating development for a reporter of events like me.

Exploitation pattern

The pattern of environmental exploitation that we see on the global scale simply reproduces itself

Excerpts from an address delivered recently at the Indian Council of Social Research, New Delhi.

on the national scale. Exactly what the Western industry does to the Third World environment, the Indian industry does to the Indian environment. Just to get an idea of how heavily independent modern industry is on the natural environment, it may be useful to point out that nearly half the industrial output in India is accounted for by industries which can be called biomass-based industries; that is, industries like cotton textiles, rayon, paper, plywood, rubber, soap, sugar, tobacco, jute, chocolate, food processing and packaging, and so on. Each of these industries exerts an enormous pressure on the country's cultivated and forest lands. They need crop lands, they need forests, and they need energy and irrigation.

The first lesson is, therefore, clear: the main source of environmental destruction in the world is the demand for natural resources generated by the consumption of the rich (whether they are rich nations or rich individuals and groups within nations) and because of their gargantuan appetite, it is their wastes mainly that contribute to the global pollution load.

Dependence on biomass

The second lesson, however, is that it is the poor that are affected the most by environmental destruction. The field experience of voluntary groups shows clearly that eradication of poverty in a country like India is simply not possible without the rational management of our environment and that conversely environmental destruction will only intensify poverty. The reason is simple though seldom recognised. The vast majority of the rural households meet their daily household needs through biomass or biomass-related products, which are mostly collected freely from the immediate environment. In short, they live within nothing other than a biomass-based, subsistence economy. Water is another crucial product for survival. Water is not biomass itself, but its availability is closely related to the level of biomass available in the surrounding environment.

The magnitude of India's dependence on biomass for meeting crucial household needs can be appreciated by looking at the energy situation. Over 50 per cent of the fuel consumption in India is for such a fundamental activity for survival as cooking. In developed countries, cooking consumes less than 10 per cent of total national fuel consumption.

But even more important for India is the fact that over 90 per cent of the cooking fuel in India is biomass: that is, firewood, cowdung and crop wastes. Even urban households are heavily dependent on firewood as fuel. Few people, energy planners and government officials alike, had any idea until recently of the dimensions of the rural-urban fuelwood trade. Annual urban purchases of fuel wood are well over Rs. 500 crores in India.

Biomass resources not only meet crucial household needs but they also provide a range of raw materials for traditional occupations and crafts and are, hence, a major source of employment: firewood and cowdung are important sources of fuel for potters; bullock carts and catamarans are made from wood; bamboo is a vital raw material for basket weavers, and so on. Traditional crafts are not just being threatened by the introduction of modern products but also by the acute shortage of biomass-based raw materials.

Several reports from all over the country portray the extreme difficulty of hundreds of thousands of basket weavers in eking out a bare existence because of the acute shortage of bamboo.

Wood is now difficult to get for making even agricultural implements. Few people know that one of the things that led to the Chipko movement was the anger of the local people over the forest department's refusal to provide ash wood, wood that has been traditionally used for making ploughs, whereas the forest department happily allocated the same wood to sports goods manufacturers. Even biomass resources like thatch have become so difficult that maintenance and repair cycles of mud and thatch huts have increased consideragly. Traditional mud roofs have almost disappeared from many parts of the country because of the large quantities of timber needed by them. They are being replaced by tiled roofs, but baking of tiles still requires large quantities of firewood.

Fodder is another vital resource that is in acute shortage. With only 2.45 per cent of the world's land mass, India supports 15 per cent of its cattle, 52 per cent of its buffaloes, and 15 per cent of its goats, and these animals play an extremely important role in the integrated system of agriculture and animal husbandry that Indian farmers practise. Shortage of fodder, especially from public lands, means, as a study from the tribal areas of Gujarat shows, that poor landless households and marginal farmers do not benefit much from the milk cooperatives and animal improvement schemes in the region.

In such a situation where millions of people are heavily dependent on biomass sources for their daily existence, the destruction of the environment that reduces access to biomass resources like the proposed forest bill will have an extremely adverse impact on the daily lives of the people.

Transformation of nature

Despite this near-total reliance on biomass resources for bare survival, nature in India has steadily undergone a major transformation. There are two major pressures operating on the country's natural resources today. The first, generated by population growth and thus increased household demand for biomass resources, has been widely talked about. The poor often get blamed for the destruction of the environment. But the second set of pressures, generated by modernisation, industrialisation and the general penetration of the cash economy, are seldom talked about, at least in policy making circles.

Modernisation affects nature in two ways. Firstly, it is extremely destructive of the environment in its search for cheap biomass-based raw materials and in its search for cheap opportunities for waste disposal. Unless there are strong laws which are equally strongly implemented, there is no attempt made to internalise environmental costs, both public and private industrialists prefer to pass them on to the society. State governments are also happy to give away large tracts of forests for a pittance and throw water pollution control laws to the winds to get a few more factories.

Other than the destruction of the environment, modernisation affects nature in yet another way : this is by steadily transforming the very character of nature. In physical terms, the tendency is to reduce the diversity in nature and transform it into a nature that is full of high-yielding monocultures. The ecological role of the original nature is also usually disregarded in this transformation. In social terms, the transformation is generally away from a nature that has traditionally come to support household and community needs and towards a nature that is geared to meet urban and industrial needs, a nature that is essentially cash generating.

Disastrous effect

The effect of this massive environmental change has been disastrous for the people, especially when we realise that in a country like India, whether on one hand we have an extremly high level of poverty and on the other a reasonably high level of population density, there is hardly any ecological space left in the physical environment which is not occupied by one human group or another for its sustenance. Now, if in the name of economic development, any human activity results in the destruction of an ecological space or in its transformation which benefits the more powerful groups in society, then inevitably those who were earlier dependent on that space will suffer. Development in this case leads to displacement and dispossession and will inevitably raise questions of social injustice and conflict. The experience of micro-level groups shows clearly again that it is rare to find a case in which environmental destruction does not go hand in hand with social injustice, almost like two sides of the same coin.

Let us look at a few cases of how the destruction of nature has affected the lives of people. In one very dramatic area where government policies have consistently increased conflicts is forests. The entire tribal population and millions of other forest dwelling people, depend on the forests for their very existence. Destruction of forests has meant social, cultural and economic destruction of the tribal populations in particular.

Yet another major component of the country's physical environment is grazing lands. The destruction of the grazing lands has meant enormous hardships for poor people, especially for the nomadic groups in the country. Few people know that India has nearly 200 castes engaged in pastoral nomadism, which when added up number upto six per cent of India's population. India is unique in the world in terms of the diversity of animals associated with pastoral nomadism.

A number of factors, including land reforms and development programmes which have promoted expansion of agriculture on to marginal lands, have steadily led to an erosion of grazing lands. The Rajasthan Canal is a fine example of a government programme that has transformed extensive grazing lands into agricultural lands. No effort was made by the government to ensure that the nomads who used these grazing lands earlier would benefit from the canal on a priority basis.

Riverine fisherfolk constitute another group that has suffered immensely with environmental destruction. Riverine fisheries are being seriously affected with increasing water pollution. Large scale fish kills are regularly reported. Rivers have now become a resource for urban and industrial India to be used as cheap dumpyards for their wastes and all this is sanctioned in the name of economic development.

People's protests

The new, commercial nature that is being created is also of little help to village communities and their daily needs. There are people's protests in many parts of the country against the conversion of oak forests into pine forests and of sal forests into teak forests. Neither pine nor teak is of any interest to local communities. In the Singhbhum area of Bihar there is even a movement to destroy the new teak forests. Equally, there is a strong protest in Karnataka against the planting of eucalyptus on farmers fields.

The planting of eucalyptus on farmers fields and even on so-called barren fields is an excellent example of the adverse biomass conversion, adverse to the people, promoted by modernisation. What happens to the poor people when eucalyptus is planted on farmers field ? We have a concrete example from a village in Punjab, where a rich farmer with over 100 hectares of land and a former Governor has stopped growing cotton and has switched to eucalyptus. As long as he grew cotton, enormous quantities of cotton sticks would be available for the landless labourers in the village to use as fuel. Because of the shortage of firewood, crop wastes from the landlords' fields are the major and almost the only source of fuel for these poor landless villagers. Now with eucalyptus growing, their main source of fuel has dried up, putting them in a precarious position. This is a case of where afforestation has actually created a fuel famine for the neediest community.

What happens when eucalyptus is grown on a barren piece of land? Usually no land is barren unless, of course, it is highly eroded in which case even eucalyptus cannot be grown on it. Generally barren lands have large quantities of weeds growing on them. With the destruction of our original vegetation, a few aggressive weeds like Lantana, Parthenium and Imomea have literally started taking over the country. None of these weeds are palatable to

animals and they therefore survive the pressure of grazing.

If we look at the firewood statistics in the country, we find there is a huge gaping hole in these statistics. The officially produced firewood does not account for even one-fifth of the total estimated demand of some 130 million tonnes of firewood a year. When this was first discovered in early 1970, it was immediately concluded that the rural people must be stealing wood from the forests on an enormous scale. Later, however, it was found that over three-quarters of the fuel used in the rural areas is in the form of twigs and little branches and there need not be any falling of trees to get this wood. But even today we do not know what vegetation is actually providing this massive quantity of twigs and branches. My guess is that weeds are now playing an extremely important role in the vital supply of cooking fuel for the poor.

Thus when a patch of barren land is planted with eucalyptus, even the weeds are no longer available to poor, landless households and their fuel crisis intensifies. Not surprisingly foresters report from all over the country, in the form of a complaint, that women even take away dry eucalyptus leaves from eucalyptus plantations for use as fuel, thus, destroying, as the foresters say, any chance of the leaves breaking down into humus and enriching the soil. But what else can these energy-starved women do?

Thus what we see in India today is growing conflict over the use of natural resources and, in particular, over biomass between the two sectors of the country's economy: the cash economy or the modern sector on one hand and the non-monetised biomass-based subsistence economy, the traditional sector on the other.

Burden on women

The destruction of the environment clearly poses the biggest threat to marginal cultures and occupations like that of tribals, nomads and fisherfolk which have always been heavily dependent on their immediate environment for their survival. But the maximum impact of the destruction of biomass sources is on women.

Given the culturally accepted division of labour within the family, the collection of household needs like fuel, fodder and water is left to women. As the environment degrades, and this becomes increasingly difficult to obtain, women have to spend an extraordinary amount of time for foraging for fuel, fodder and water in addition to household work, agricultural work and caring for animals. The worst situation is in the arid and semi-arid parts of the country and in the hill and mountain villages. In all these areas trees and forests have been steadily destroyed. The women here can spend as much as five to six hours everyday, in some households as much as ten hours everyday, just collecting fuel and fodder. On the contrary, in a state like Kerala, where ecoclimatic conditions permit a rich green cover, the work burden on women is much smaller—probably the least in the country.

Cash economy

The penetration of the cash economy is affecting the relationship between the men and women in a peculiar way and is creating a real dichotomy in the respective relationships with nature. Men have become more involved with the cash economy than women. Women continue to deal with non-monetised, biomass-based subsistence economy of the household. Even within the same household, we can find cases of men happy to destroy nature to earn cash even though it would create greater hardships for the women in collecting daily fuel and fodder needs.

The Chipko Movement has given us numerous examples of this dichotomy in male-female interests, and the role of the women in preventing deforestation has been paramount in the movement. Even though many crucial household needs could be met by rehabilitating the local village ecosystem—by planting fuel and fooder trees, for instance—the men do not show any interest in doing so. It is women who are doing all the afforestation work organised by the Chipko Movement.

The new culture created by the penetration of the cash economy has slowly but steadily, psychologically alienated the men from their ecosystem. Employment for them means work which can bring cash in their hands. This employment can be found mainly in the city and, hence, mass male migration. Even when the men are in a village a job is still something that must earn cash.

It is not surprising that the eucalyptus based social forestry, trotted out to be such a great success by the World Bank and the forest departments, is all in the hands of men, all planting trees with the cash motive. Other than employing women as cheap labour in nurseries, these agencies have nothing to show in terms of involvement of women—the very people who deal with fuel and fodder and the government too still gives this the name of Social Forestry. But may be this should not be surprising. Making a fast buck, even at the expense of society and ecology, is probably the most social thing we can do in a cash economy.

Because of the increasing intensity of floods, there has been considerable talk in recent years about integrated watershed management in the Himalayas and in the Ghats. The Himalayas are being described as one of the most threatened ecosystems in the world, which in turn determines the fate of several hundred million people in the Indo-Gangetic plains. But if any action for ecological reconstruction has to be taken in the hills, it cannot be done without the involvement of women.

Fortunately, the experience of the Chipko Movement shows that women in these parts, despite their 14-16 hour back-breaking work schedule, are extremely keen to participate in such work, especially in

(Contd. on page 27)

Currency and exchange profile before Independence

S. K. Ray

The evolution of the currency system in British India had overall suited the pattern of British requirements. This by and large revolved around the considerations of home charges and the opposition of the Treasury of England to the creation of an independent gold reserve for India.

THE GOLD STANDARD, which is essentially linked to the creation and maintenance of a gold bullion reserve, was never really given a trial in the Indian context. The British Government had apparently considered it more expedient to link the currency system to the British sterling which in turn was linked to the gold standard. Indian currency was thus made subservient to the British currency. It was as a result of this imperialist manoeuvre that a currency system known as the gold exchange standard came into being around 1900.

It was maintained by the Government that the gold exchange standard introduced in India with the advent of the twentieth century was the outcome of the implementation of the well-considered recommendations on currency reform made by the Herschell committee 1892 and the Fowler Committee 1898. That it was in reality not so was hinted at even by Keynes himself.[1]

Both the Herschell and Fowler Committees had recommended that the Indian currency should be salvaged from the ill-effects of bimetallism and linked to a full-fledged gold standard.

Even though the gold exchange standard was patterned to suit the interests of exports of Indian raw materials to Britain and import of British manufactures to India, a kind of stability in the foreign exchange counter was achieved.

Chamberlain commission

Very soon the Government had backed up even a theoretical support for the gold exchange standard. The Chamberlain Commission in 1913 reviewed the existing currency and exchange practices in India, and pronounced on the advisability of introducing a gold standard with a gold currency.

On their recommendations certain palliative measures were adopted 'to improve upon the present working of the gold exchange standard'. The gold exchange reserve, instead of being entirely invested in London, came to be held in actual gold to the extent of at least 50 per cent, and of the remaining 50 per cent also largely in easily convertible securities.

The First World War had brought about many disturbances in the currency and exchange situation in India. There were pronounced difficulties in the minting of silver rupees and coins.

Another committee

The Babbington-Smith Committee 1920 was appointed to advise the Government on the stabilisation of the Indian rupee. The Committee had considered it advisable 'to link the rupee directly to gold rather than to sterling which was itself depressing.

1. Keynes described the essentials of the gold exchange standard as the use of a local currency mainly not of gold, some degree of unwillingness to supply gold locally in exchange for the local currency but a high degree of willingness to sell foreign exchange for payment in local currency at a certain maximum rate and to use foreign credits in order to do this.

The Government accepted the recommendation but grudgingly, and 'the rupee was statutorily declared equivalent to 2s gold, and sovereigns were declared legal tender at Rs. 10 each.'

In the twenties however in line with the world trend the post-war trading boom soon spent its force. Exports from India sharply declined vis-a-vis imports into India which had sharply increased, with a consequent pressure on the monetary remittances to Great Britain.

Masterly inaction

To restore the strength of the rupee, a number of restrictive measures were adopted. Thus the currency base was contracted; the discount rate was raised; sale of council bills remained suspended until 1924-25, when for remittances from India to Britain purchase of sterling in India and sale of council bills in London were both resumed.

It was at this stage that the Government considered it wise to take a fresh look into the entire issue of Indian currency and exchange system. In fact the five-year period (1921 to 1925) was marked by indecisions. The policy of drift, labelled as a policy of masterly inactivity, led to deleterious consequences.

The end of the policy of masterly inactivity was now in sight. The Government of India in response to repeated pressures from various quarters set up in August 1925 a Royal Commission on Indian Currency and Exchange under the presidency of Commander Hilton-Young.

Hilton-Young commission

After examining various alternatives, the Hilton-Young Commission decided in favour of a gold bullion standard as the future monetary system for India. The basic recommendations were : A gold bullion standard should replace gold exchange standard, 'the linkage to gold' would be provided 'by making the currency directly convertible to gold.' and this would be arranged in a 'conspicuously visible' manner[2] one-rupee notes would be resumen, and minting of rupee coins given up, gradually the rupee coinage being shrunk and 'eventually redeemed in gold.'

The Government accepted the recommendations of the Hilton-Young Commission, and in matters relating to currency and exchange, the Finance Minister Basil Blackett moved a bill in March 1927.

There were mainly two planks on which the Report of the Hilton-Young Commission, the Basil Blackett Bill, and the 1927 Currency Act were criticised. Firstly, the Government was out to artificially raise the exchange rate to favour the pound sterling vis-a-vis the Indian rupee. Secondly, the intention was to promote the interests of British trade and industry rather than the development of the Indian economy.

2. Apart from liberal buying and selling of gold by the Treasury, the Government proposed to issue Savings Certificates redeemable in 3 or 5 years in Legal tender money or in gold at the option of the holder.

There was yet another snag. Since the Government had the option of giving sterling and not gold, the standard thus established continued to remain a sterling exchange standard, more so after September 1931 when sterling was no more at par with gold.

Britain left the gold standard in September 1931. The Government of India also abandoned the gold linkages of the rupee, and began to deal only in sterling to keep the rupee-sterling rate at Re. 1=1s 6d. Once again the currency standard in India became a sterling exchange standard. This had resulted, in accordance with the British design, in a reckless flight of gold from India into England, depleting India's gold stock by nearly 36 million ounces (worth well over Rs. 300 crores at currency prices) during 1931-37.

Sterling balances

The Second World War witnessed three tell-tale developments in the shape of an inflation fevered by war-expenditure; a burgeoning rise in sterling balances; and an emergence of exchange control.

The portents of the economy in matters relating to currency and exchange in the decades leading to independence can be briefly indicated. The rupee-sterling linkage came handy with the British Government to finance the war account in India by simply transferring sterling securities to the Government of India's account at the Bank of England. Finally, on the security of these blocked sterling balances in Britain, the issue of additional rupee (paper) currency was authorised in India.

During the World War feverish exports of raw materials to Great Britain gave India a favourable trade balance. This, however, led the Reserve Bank of India to purchase more sterling than it sold, and to further accumulate an already growing sterling balance.

By December 1946 the sterling securities held with the Issue Department had risen to Rs. 1,135.32 crores, and by the Banking Department to Rs. 485.76 crores.

The unbridled expansion of paper currency on the strength of sterling balances fed fuel to the fire of inflation. This is reflected in Table 1.

TABLE 1

Sterling balances and note issue

Year	Sterling balances	Note issue (September)	Price level (August)
1939	64	176	100
1941	169	241	143
1943	394	513	238
1945	1,182	969	244

Source : Annual Reports on Currency and Finance, Reserve Bank of India.

Inflationary spiral

Rigorous exchange control measures were adopted by the Government during the World War through the Reserve Bank of India. These measures were applied not only in relation to foreign exchange supplies and remittances, but over almost the entire export portfolio. As a result during the World War, inflation had been restrained on a relatively low key, also helped by the wanton shortage of consumer goods, even necessities, diverted to war requirements and hoarded in the folds of the black market.

But it spiralled sharply upward in the post-war years when exchange control measures were hastily withdrawn, indexation of consumer goods had by and large ended, and there were sprees of feverish spending of accumulated sterling balances by the Government.

With the advent of independence, there were firstly the compulsions of refugee rehabilitation and post-war reconstruction, and secondly those of developmental expenditure under the Five Year Plans from 1951 onwards and undertaken before the fever of post-war inflation could be effectively extinguished.

An appraisal

It is now abundantly clear that at no stage had the interests of the indigenous economy bothered the alien Government overmuch in their attempts at currency reforms in India. The primary and overwhelming consideration has always been the protection of British interests in both India and England.

The age-old strategy of setting up Committees and Commissions was liberally practised by the British Government, either in formalising currency and exchange measures oriented to imperial preferences, or in diverting and confusing critical or adverse public opinion. This has been done over and over again, and even when such Committees or commissions included renowned British or Indian economists or financiers, the basic objectives of the British Government were never lost sight of. Very often forthright views of such members as Purshottamdas Thakurdas or Ardeshir Dalal were altogether ignored or sidetracked.

The gold exchange standard, championed in the early twentieth century as a panacea for the ailments of the Indian currency system, had in fact bristled with many ailments.

It was an unfailing effort by the British Government to pitch the rupee-sterling relationship at a ratio that would suit the interests of the British Government. The interests of Indian economic development ranked only a poor second. This policy had naturally led the British rulers to opt for a higher sterling value for the rupee after the First World War. This had led India to run up 'huge losses of hard-earned sterling in the immediate post-war period'.

The British Government's continuous refrain however had been that the rupee's link with sterling was a source of strength.

But even this bubble of concern for the Indian economy was pricked during the Second World War. The sterling connection for the Indian rupee being a source of strength proved to be an altogether false propaganda. It led to two adverse consequences.

Firstly, by putting the rupee-sterling link to their own advantage, the British Government had made India grant the former a huge sterling loan of over Rs. 1,600 crores, and had thereupon prevented the use of sterling balances for India's own economic development by blocking their release during the war years, thereafter agreeing to release them only in trickles.

Secondly, the link with sterling was also used or rather abused by the British Government to create a large expansion of paper currency in India on a narrow base of gold. This strategy had germinated seeds of a run-away inflation in the post-war years.

It was clear to contemporary public opinion that the currency and exchange policy pursued by the British Government 'was not intended to provide India with reasonably elastic monetary system maintaining over the years a stable currency standard of stable values'.

It was tilted in favour of British payments to India, by undervaluing the debt burden by currency gimmicks, and also by deferring such payments under one pretext or the other, investing the capital during the interregnum in Great Britain, and allowing India to draw only a pittance of interest, if at all.

Increase in export of basic chemicals

EXPORTS OF BASIC CHEMICALS, pharmaceuticals and cosmetics increased to Rs. 126.34 crores against a prorata target of Rs. 103.75 crores during the first quarter of the current financial year. The items include drugs, pharmaceuticals, dyes, intermediates, alcohol and coal tar chemicals, basic inorganic and organic chemicals, glycerine, soaps, detergents cosmetics and toiletteries, agarbattis, essential oils, crude drugs and naptha.

The exports during the corresponding period of the last year (1983-84) stood at Rs. 71.55 crores. The export target for the year 1984-85 has been fixed at Rs. 415 crores.

The total exports during 1983-84, valued at Rs. 411.88 crores exceeded the target fixed at Rs. 350 crores as against an achievement of Rs. 307.81 crores in 1982-83.

During the current year the actual exports have exceeded the prorata targets in almost all cases of items in different panels.

Basic issues guiding Seventh Plan

—Yojana Correspondents

THE POPULATION BELOW THE POVERTY LINE would be reduced substantially through productive employment, among other measures, by the end of the Seventh Plan, as part of the long-term perspective of reducing the national poverty level to around 10 per cent of the population by 1994-95. This was stated by Shri Mohammed Fazal, Member, Planning Commission, while inaugurating a Seminar on Basic Issues relating to the Seventh Plan held recently in New Delhi.

The Member said a vigorous efforts will be made to raise the literacy level of the people besides bridging the gap in the provision of health, nutritional and water supply services.

He explained the broad objectives of the Seventh Plan would focus on Food, Work and Productivity as outlined in the Approach paper. The provision of productive employment would be the major objective combined with a significant reduction in poverty. This was sought to be achieved through accelerated growth of labour absorbing agricultural and rural development and of food production in particular. It would entail a thrust for developing these sectors, as also that support them, e.g., irrigation and command area development, power, fertilizers and relevant industry.

Industrial strategy

Shri Fazal said that the industrial strategy would be based on adequate infrastructure development, incorporating the "growth centre" concept and "nucleus plant" approach, together with initiatives for increased ancillarisation. The policy framework would also involve dispersal of industry away from urban concentrations.

In addition to productivity, effective programmes would be undertaken to improve quality in production in all sectors of the economy, as also for modernisation, and efficient maintenance of assets. Productivity of industry would be enhanced with utilisation of full capacity in order to stem the adverse impact on the process of growth. Though massive investments had been made in every plan, it had not been possible to achieve maximum productivity from the investments made in agriculture, textiles, cement, copper, aluminium, zinc, irrigation, power steel, coal, transport and other industry, he added.

"An increase in productivity and output in industry would have a cascading effect on all users and industries, leading to considerable increase in production and productivity, and eliminate the present price-cost regime where inefficient management is permanently subjecting the hapless consumer to pass-on high cost levels," he said.

Calling for separating the true industrialist from the trader-cum-speculator in industry, he said, in sugar, textiles, paper, cement, drugs and pharmaceuticals, automotives and automotive tyres and ancillaries, hydrogenated vegetable oils, soaps and detergents, footwear and manufactured food products where the private sector was dominant, high prices and cost regime prevailed where a seller's market seemed to rule permanently. To put an end to this situation, an adequate utilisation of installed capacity alone would be enough to eliminate high prices charged and the need for imports.

Second industrial revolution

Shri Fazal called for a second industrial revolution based on elimination of inefficient units, technological upgradation by making a quantum jump to state-of-the-art technology (imported where necessary) applied in economical-sized industrial units, producing goods at world scale levels of finish, sophistication, reliability and costs. The discipline of the market required prima facie enough supply by numerous producers to prevent price fixing by a few.

"Public enterprises would also have to generate surpluses which would take care of as much of their own capital requirements as was possible at norma-

tive efficiency levels. Such a drive for industrial efficiency across the board would generate funds for investment in industry", he said. Emphasising the need for substantial reduction in costs and time-over-runs, he said, the Government was determined to enforce accountability in public sector.

Lower capital cost

Explaining the case for a lower capital and revenue cost, Shri Fazal said India had a very cheap labour force as also managerial overheads, which might not be more then 10 to 12 per cent as compared to what existed in a highly developed country. Measures would have to be taken to establish a low cost economy in the country.

Talking of investment pattern in the Seventh Plan Shri Fazal said, a policy of strict selectivity in choosing new programmes and projects for public sector investment having regard to the availability of recources and ensuring continuous adequate funding of projects, especially those which were essential for growth, self-reliance and modernisation or productivity, would have to be followed.

Productive employment

Shri Fazal emphasised the importance of productive employment in the next plan and said, "Instead of relying on general economic growth for raising employment opportunities without any special effort to give employment orientation to this growth, it was necessary to treat employment as a direct focal point of policy. However, employment could be sustained only if it was productive and added to output and incomes on a continuing basis. Hence, strategy to generate productive employment". In this connection, he said, the potential of the industrial sector in generating employment could not be minimised.

He pointed out that the growth pattern of employment would be re-structured with income-generation for the poor. "The implications of this would mean that capital intensive new-starts in non-essential areas, i. e. those not connected to food, work and productivity would not be part of plan outlay in the public sector, nor would such projects enjoy preferential support from the public financial institution," he added.

Shri Fazal emphasised the need for conservation of energy by industrial sector and said, "management of the energy sector was a key task for the Seventh Plan and beyond. The major task was to reduce the rate of growth of energy consumption in relation to GDP growth; to substitute coal and electricity for oil through appropriate technologies, and to manage supply and demand by suitable price and tax policies".

Size, dimensions and targets

Detailing the broad physical dimensions, size and targets of the plan he said, "the Seventh Plan aims at a GDP growth rate of a little over 5 per cent per annum. The annual growth rate envisaged was 4 per cent for agriculture, with food production being at five per cent, while a seven per cent growth rate was slated for industry. The growth rate of population has been assumed at 1.8 per cent per annum. Over the five years, aggregate investment at 1984-85 prices would be of the order of Rs. 320,000 crores of which the public sector outlay would be Rs. 180,000 crores, the investment component of this being Rs. 150,000 crores, or approximately 47 per cent of the total Plan investment."

"Poor production by the end of the Seventh Plan would be around 188 million tonnes, against a base figure of 150-151 million tonnes in 1984-85. Electricity generation was expected to grow from around 165 billion Kwh at the end of the Sixth plan to 270 billion Kwh in the terminal year of the Seventh Plan. Substantial increases were also proposed in the production of basic goods which contributed to the strength and performance of the economy like steel, where a level of production of around 13 million tonnes was expected by the end of the Seventh Plan, production of cement was expected to be around 48-50 million tonnes in 1989-90. Originating railway freight was expected to be 375 million tonnes at the end of the Seventh Plan as compared to 275 million tonnes at the end of the Sixth Plan. Crude oil production was expected to go up to more than 35 million tonnes; and a substantial step up in the production of fertilizers was also envisaged," he said □

Outlay for plant protection

THE 12th ALL-INDIA Plant Protection Conference, which met in New Delhi last month has recommended that at least 5 per cent of the outlay on agriculture and allied sectors in the Seventh Plan should be earmarked for plant protection. It has also suggested that a massive training programme should be launched in the country for the pesticides dealers and farmers.

The Conference also recommended that the capacity for analysing samples in the States should be augmented manifold and the laboratories properly equipped manned by a trained staff. It wanted States to enforce the provisions of the law in the matter of quality control right from the stage of manufacturing to the ultimate use in the fields.

Readers' Forum

YOJANA solicits views of readers on articles published in it. It also invites them to express their views on various current, social and economic issues. The letters should not exceed 200 words.

—Editor

TOWARDS SOCIAL REVOLUTION
a Case for Economic Democracy -
VASANT SATHE

A Serialisation 8

The economic system
Monstrous growth of black money

ALONG WITH THE FOREGOING FIGURES, let us also now consider the growth of what is called the 'parallel economy' or the wealth which has escaped being accounted for towards revenue and which has remained in the hands of those who have accumulated and have also used the same. The first effort towards estimating the amount of black money was made by the Wanchoo Committee also called the Direct Taxes Enquiry Committee (1971). It said :

Even after taking all these limitations into account and after making rough adjustments on the basis of information available, the estimated income on which tax has been evaded would probably be Rs. 700 crores and Rs 1000 crores for the years 1961-62 and 1965-66 respectively. Projecting this estimate further to 1968-69 on the basis of the percentage of increase in the national income from 1961-62 to 1968-69 (during which period the national income increased nearly by 100 per cent at current prices), the income on which tax was evaded for 1968-69 can be estimated at a figure of Rs. 1,400 crores. As regards the extent of tax evasion we find that the average rate of tax on the income assessed for 1965-66 was around 25 per cent. But considering that the size of the problem of black money and tax evasion has grown over the years and tax evasion is more widely practised at higher levels of income, it would be appropriate to adopt the rate of tax applicable to evaded income at not less than 33-1|3 per cent for 1968-69. On the basis, the extent of income tax evaded during 1968-69 would be of the order of Rs. 470 crores, being one-third of Rs. 1,400 crores. The money value of deals involving black income may, therefore, be not less than Rs. 7,000 crores for 1968-69. We would, however, wish to emphasise that the amount of tax-evaded income for the year 1968-69 is only a guesstimate based on certain assumptions about which substantial difference of opinion exists for want of adequate data. In addition, we would also like to dispel a possible impression that the tax-evaded income is all lying hoarded which can be seized by the authorities; much of it has been either converted into assets or spent away in consumption or else is in circulation in undisclosed business dealings.

The multiplicity of avenues in which black money in the country gets channelised is matched only by the ingenuity of the devices through which it is earned. It is found widely used for conducting business transactions in "Account No. 2", smuggling of gold, diamonds and luxury articles, indulging in unauthorised transactions involving foreign currency and purchasing scarce commodities for the purpose of hoarding, speculation, profiteering and black-marketing. It is also spent in purchasing illegally quotas and licences at premia, financing secret commissions, bribes, litigations, etc., giving "on-money" in business transactions, buying industrial peace, financing election expenses and giving donations to political parties. Black money is also utilised in call deposits, bogus hundi loans, acquisition of movable and immovable assets, for example, jewellery, tax-free government securities, deposits in Indian and foreign banks in "ghost" or benami names, often with "on-money" payments. Now, infrequently, contributions to charity in annonymous and pseudonymous names also come out of black money. Behind the vulgar display of wealth which is evidenced by ostentatious living and lavish expenditure on weddings, festivals, etc., is this scourge of black money.

A recent study on black money and 'transactions unreported' puts the figure of black money at Rs. 46,866 8 crores for the year 1978-79 and its percentage to official Gross National Product (GNP) at 48.8 per cent. Table 3.3 illustrates the monstrous growth of black money.

Table 3.3 Size of black money

Year	Size of black money (Rs. crores)	Percentage of black money to official GNP
1967-68	3,034 4	9.5
1972-73	15,195.5	31.8
1973 74	15,894.9	27.0
1974-75	14,518.1	20.8
1975-76	18,457 9	25 4
1976-77	30,014 2	39.4
1977-78	34,335.2	39.5
1978-79	46,866.8	48.8

On the basis of the foregoing data, the estimated black money figure for 1981-82 is Rs. 54,000 crores.

Much of the black money is also kept in the banks, including nationalised banks, in fictitious, benami accounts. This is often done with an understanding between the banker and the individual. After all, banks also want to show an increase in their deposits. Then, these very deposits are utilised for borrowing legitimate money from the bank. Thus, in effect, black money is used to draw out the white money, further helping the growth of the black or the unaccounted income. There are many other dubious methods of generating incomes from black money, such as chit funds and various forms of gambling.

A recent evidence of how banking facilities are freely used by the black market operators came to light in the Supreme Court concerning the case of Sanchaita Investments. The Economic and Political Weekly reported that : "A search of the residence of one of the partners of Sanchaita resulted in the seizure of, among other things a passbook of the Gariahat branch of Syndicate Bank in Calcutta, in a fictitious name showing Rs. 28 crores to the credit of the account." (13 February 1982, p. 213). The Chief Justice of the Supreme Court, Y. V. Chandrachud observed : "The partners of the firm have become millionaires overnight. Clerks and chemists that they and some of their agents were in 1975, today they own properties which will put a prince to shame. 'Rags to riches' is how one may justly describe the story of quick and easy enrichment. There is no question that this vast wealth has been acquired by the firm by generating and circulating black money. "(Ibid)" The company offered interest rate of 48 per cent per annum and made generous contributions to the dominant party in the country."

Reverting to legitimate economy, according to the figures of income tax assessments for the year 1979-80, those whose income is above Rs. 1000 per month would come to approximately about 20 lakhs. Even presuming that a large number of people have not disclosed their real income and have not even come within the purview of taxation this figure could not exceed its doubled number and, hypothetically, one could even put the figure at around 40 lakhs, that is, about four million people in a population of 700 million. Considering that, after eliminating children and non-working women and men, the work force in the country is found to be a little below 50 per cent of the population, i.e., about 350 million, the income tax paying population is only around one per cent of the work force. It will then be clear that the real consumer market of goods that one sees flooded in urban pockets in the major metropolitan centres is for this restricted section of the population. It is in this context that the impact and the influence of the unaccounted black money can be understood. Obviously, whereas the GNP is distributed over the entire population in terms of the economic activity, the fact that an amount equivalent to nearly 50 per cent is in the hands of only a few hundred thousand and is circulated or distributed mainly at the decision-making points or points of social service and even then there is enough surplus to be spent on ostentatious non-essential luxuries shows that the ntire five-star culture and the flagrant display of wealth are the outcome of this unaccounted wealth. It has virtually got a stranglehold on the entire economy, nay, the entire life and the value system of the society.

This, in a nutshell, is the economic system that has emerged out of three decades of planning. However, it is necessary to look at the other side of the coin, i.e., the achievements of planning, especially those of the public sector undertakings as a crucial segment of India's economic system in which is invested the public's money.

The public sector

Full allowance should be made for the fact that industries in the public sector are those which require longer gestation periods and have not only to provide for the basic infrastructural needs but also make substantial investments in human welfare activities like providing housing facilities to its employees. Even an efficient management of any sector must conform to certain well-accepted parameters and must, at least over a period, show a fair return on investment. Somehow, industries in the public sector have developed a feeling that they have been absolved from the requirements of showing results according to reasonable norms, and that, being in the public sector, they were like the 'holy cow', immune to any criticism. As a result, even the elementary norms of an industrial activity, such as, cost-output ratio, the ratio of variables to non-variables, the ratio of inventories and their accumulation, the time over-run bringing in escalation of costs the heavy spending on overheads, lack of planning in securing the proper quality of equipment, inadequate arrangements to secure power supply and essential raw materials—these well-known elementary parameters have been grossly neglected in the public sector. If we take the total profits as percentage of the total investment we will see that the return has been negligible.

The total investment in the 187 Central Public Sector undertakings up to 1981-82 amounted to Rs. 21,865 crores and is estimated to be nearly Rs. 25,000 crores at the beginning of 1982-83. Table 3.4 shows the capital investment in these undertakings over the last five years and the turnover and profit or loss from all these undertakings as a whole :

Table 3.4 Profile of public sector enterprises (Rs. crores)

Item	1977-78	1978-79	1979-80	1980-81	1981-82
Number of running public enterprises	155	159	169	168	187
Capital employed	12,065	13,969	16,182	18,207	21,865
Turnover	18,020	19,061	23,290	28,635	36,443
Gross profit before interest and tax	915	1,071	1,229	1,418	2,675
Net profit before tax	160	185	225	19	1,074
Net profit after tax	—91	—40	—74	—203	485
Internal resources generated	708	906	1,030	1,225	2,249
% of gross profit to capital employed	7.6	7.7	7.6	7.8	12.2
% of net profit before tax to capital employed	—	—	—	—	4.9
Employment (lakhs)	16.38	17.03	17.75	18.38	19.02

Source : Economic Survey 1982-83, p.49, Ministry of Finance, Government of India, New Delhi

Table 3.5 shows the corresponding profile of private sector companies over the years 1977-78 to 1980-81 :

Table 3.5 Profile of private sector enterprises (Rs. crores)

Item	1977-78	1978-79	1979-80	1980-81
Number of private sector enterprises	421	426	433	433
Capital employed	7,222	7,843	8,702	9,860
Turnover	11,161	12,402	14,145	16,656
Gross profits before interest and tax	1,102	1,283	1,537	1,702
Net profit before tax	744	894	1,121	1,198
Net profit after tax	349	453	597	692
Internal resources generated	531	643	818	949
% of gross profit to capital employed	15.3	16.4	17.7	17.3
% of net profit before tax to capital employed	—	—	—	12.1
Employment	N.A.	N.A.	N.A.	N.A.

Sourse : RBI Bulletins, June 1979, July 1980, October 1981 and August 1982.

It will be seen that during the year 1981-82, the public sector undertakings earned a net profit of Rs. 485 crores after incurring net losses for the previous years. The trend is no doubt encouraging, but when we compare this performance with the total investment made in these undertakings so far, i.e. Rs. 21,865 crores, the net profit after tax for the year 1981-82 represents a return of 2.22 per cent only. Here also if we exclude the fortuitous profit of 11 petroleum sector companies, which was Rs. 588 crores for the same year there is hardly any profit at all from the remaining public sector units.

The public sector enterprises however account for 12 per cent of the total labour force in the entire economy, 3 per cent of total GNP and about one-fifth of the GNP originating from the entire public sector in the country. The number of public sector enterprises increased from 120 in 1973-74 to 187 in 1981-82 and gross fixed assets of these enterprises grew by 18 per cent per annum. The overall industrial production increased by 5 per cent per annum during this period. Petroleum units which account for one-third of the total sales turnover of all enterprises recorded 16 per cent sales growth during this period and this accounts for the general average of 5 per cent although many of the other units are suffering losses.

However the profitability of Central Government enterprises shows a declining trend. A comparative picture regarding the return of investment in public sector and large private sector companies is presented in Table 3.6. This table shows that the return on investment in public undertakings is less than that in large private sector companies. During 1977-78 to 1979-80, return on investment in public undertakings declined sharply while in private companies it increased rapidly during the same period.

Table 3.6

Return on investment in public and private sector companies.

Net profit after tax as percentage of shareholders' funds (share capital + reserves)

Year	Central Government non-departmental and commercial undertakings (per cent)	Large private sector companies (per cent)
1975-76	2.6	8.2
1976-77	3.2	7.9
1977-78	—14.0	8.8
1978-79	—0.6	12.6
1979-80	—0.9	14.1

Source : Public Sector in the Indian Economy, Centre for Monitoring Indian Economy, August 1981.

In order to get a proper assessment of the performance of public sector undertakings, it is essential to see the relationship between total return (profit before interest and tax-gross profit) obtained on the total capital employed (net fixed assets excluding capital work in progress, etc., plus net working capital). Gross profit as percentage of capital employed was 7.6 per cent in 1975-76, which increased to 9.4 per cent in 1976-77 and then declined to 7.7 per cent. If we consider the net profit after tax, we find that public enterprises have been running in loss except during 1981-82.

Out of the 187 running public sector enterprises 107 made a profit of Rs. 1,297 crores during 1981-82 and the remaining 80 units incurred loss of Rs.812 crores, bringing in a net profit of Rs. 485 crores. The ratio of gross profit to capital employed which was stagnant between 7.6 and 7.8 per cent during the past few years recorded a significant improvement to 12.2 per cent in 1981-82 and is reported to have further improved during 1982-83. This was possible mainly due to increases in capacity utilisation and the proper prices for their products.

Another important point which needs to be considered is the financing of fixed assets formation in the public sector. Internal resources generation (profits after tax less dividends plus depreciation and write-offs) of the public sector is relatively less compared with the private sector and therefore the former has to depend on external sources (share capital issues for cash, borrowings, sundry creditors and other current liabilities). In case of Central Public Sector enterprises, financing of gross fixed assets formation during 1975-76 to 1979-80 shows that 26 per cent was financed out of internal resources and 74 per cent through external resources. As regards private corporate sector (large companies), internal resources generated were 81 per cent and external resources 19 per cent during the same period.

However, the definitions of external and internal generation of resources do not necessarily show that the internally generated resources are ploughed back in the private sector enterprises. The ploughing back of profit in the private sector is not, and cannot be, synonymous to generation of internal reresources. In fact, the private sector utilises shareholders' money and deposits from the households to generate resources to set up enterprises in which the promoters' share is sometimes as low as 3 per cent to 5 per cent but the management of the company remains in the hands of these promoters. The profits generated in existing companies are not always utilised for provision of capital in new companies. The existing profits are taken away to utilise them for other purposes. This works like ductless glands of the economic body of the country, the repercussions of which are seen in the generation of black money and the expatriation of money to foreign countries.

The difference between the two sectors can be explained, however, if one considers the areas in which public and private sector enterprises are operating. Public sector enterprises are operating in the production of capital goods, machinery and provision of industrial infrastructure. The pricing policy of public sector enterprises is guided by the overall economic objective and plan priorities. The prices charged are not reasonably remunerative to yield comparable rates of profits and provide more internal resources. In contrast to this, the private corporate sector is operating in consumer goods sector, intermediate products, etc., and gets advantage of various incentives and concessions extended by the government as also protection from foreign competition. The prices charged by the private sector companies are remunerative and this results in high profit margins.

Moreover, private sector companies are beneficiaries of products and services produced in the public sector enterprises; they operate in areas where consumer demands are very high and produce and sell those products which are consumed by high-income groups. The private sector production is geared to cater to the requirements of well-off sections of the population, whereas the public sector produces goods for the common man and for strengthening the overall growth potential of the economy irrespective of the profits generated.

This then is the picture of generation of surpluses through public sector enterprises, which is an important component of our programme for economic growth. The poor profitability of most of these undertakings is largely due to underutilisation of capacity, which in the case of some units was as low as 13 per cent during 1981-82.

There is thus a vast scope for upgrading the performance of our public sector units and for generating sizeable surpluses from them for augmenting our revenues for economic growth. □

The search for oil

D. Janaki

Since its establishment in 1956, the Oil and Natural Gas Commission has taken up drilling operations in different parts of the country and also in the Bay of Bengal and Arabian Sea. India is now sharing its expertise in petroleum technology with many developing countries.

THE GROWTH OF India's oil industry is synonymous with the development and evolution of the Oil and Natural Gas Commission. Establishment of ONGC in 1956 marked a beginning of a systematic search for oil in the country.

In the past 28 years, the quest for oil has taken ONGC to vastly diverse areas in all the four corners of the country. The search for oil gas from the snowy peaks of the Himalayan region to the depths of the Bay of Bengal and the Arabian Sea.

Onshore drilling

ONGC's drilling record is impressive. It struck oil at Cambay in the very first well drilled in 1958. In 1960 oil was struck at Ankleshwar in Gujarat, and till Bombay High was discovered it was India's largest oil field. The output in Ankleswar so far works about to 5 crore 40 lakh tonnes. In 1961, oil was found at Kalol in Gujarat and at Rudrasagar in Assam. Sanand in Gujarat yielded oil in 1962. Each success gave ONGC the impetus to intensify the search.

Offshore vetures

In 1970, ONGC widened its horizon. The first offshore venture was near Aliabet in the Gulf of Cambay. The fixed platform for this purpose was designed locally fabricated and erected by ONGC. It was from this platform that India's first offshore well was spudded.

Drilling began in Bombay High in 1974. Oil was first struck in a limestone reservoir. On 21st May, 1976, two years after the discovery of oil there the first barrel of commercial oil was pumped into the tanker 'Jawaharlal Nehru'. ONGC's offshore exploration ranges from the Gulf of Cambay to the Coromandel Coast. From areas off the Krishna Godaveri delta to south of the Sunderbans.

The ONGC expects to double its production by 1989-90, says the Chairman of the ONGC Col. S. P. Wahi. The production level is expected to be 45 million tonne s of gas and oil. The exploratory efforts would be nearly two and a half times more than that undertaken during the 6th Plan.

The ONGC has at present taken up exploratory work in 26 sedimentary basins and thus departed from the earlier approach of selective concentration. ONGC's thrust would be more on onshore exploration. Exploratory work would be taken up in a big way in Himachal Pradesh, Jammu and Kashmir, Rajasthan, West Bengal, Bihar and other areas. According to Mr. S. Talukdar, Member (Exploration), ONGC, Asia's biggest giant wells 7 to 7½ Km. deep would be dug in the Himalayan region.

This is the first time such a venture is being undertaken and the help of foreign experts would be sought for this. The expenses for sinking one such well will be more than Rs. 15 crores. The prospect of gas find in this area is high. Gas that might be found here could be easily consumed by growing industries in Ludhiana, Jalandhar and Amritsar. Four super wells, each 5 Km deep, would be dug in the Cambay basin. If proved successful, there would be substantial increase in production.

ONGC will also undertake aggressive drilling for oil and gas in the Godaveri, Krishna and Cauvery basins, offshore drilling off the Kerala Coast and intensive drilling in the Andamans. According to the ONGC, the oil area in the southern belt is of a complex nature and there is more of gas than oil. Drilling in Andamans, if successful, would revolutionise the economic potential of the island as it had done in Gujarat.

(Contd. on page 23)

Public sector : A different angle

Prakash Tandon

The Public sector, which was born of sound concepts, most often lacks sophisticated and understanding masters and courageous managers. Managing the public sector is going to need a new breed of managers whose responsibility, unlike in the private sector, will transcend far beyond a few thousand or even a few lakh shareholders. Government, as the sole proprietor, should respond to the changing needs and, among other things, consider giving the public enterprises more effective autonomy together with better accountability, says the author.

LET ME BEGIN with tracing the genesis of our public sector, which is contained in a White Paper that was put out by the Government of India on 21st April, 1945, as a statement of Government's post-war industrial policy. The following extracts from the White Paper are as relevant today :—

The Government of India have reached a stage in their planning of industrial development when they consider it would be in the public interest to make an announcement of the conclusions reached by them on various aspects of policy.

It was indeed contemplated by Parliament, when the Government of India Act was passed, that industries in which a common policy was desirable would be brought under Central control. Government consider that for achieving the foregoing object the following industries should be centralised :—

1. Iron and Steel.
2. Manufacture of Prime Movers.
3. Automobiles and Tractors and Transport vehicles.
4. Aircraft.
5. Ship-building and Marine Engineering.
6. Electrical Machinery.
7. Heavy Machinery, such as Textiles, Sugar, Paper, Mining, Cement and Chemical.
8. Machine Tools.
9. Heavy Chemicals and fine chemicals, chemical dyes, Fetilisers and Pharmaceutical Drugs.
10. Electro-chemical Industry.
11. Cotton & Woollen Textiles.
12. Cement.
13. Power Alcohol.
14. Sugar.
15. Motor and Aviation fuel.
16. Rubber manufacture.
17. Non-ferrous metals Industry.
18. Electric Power.
19. Coal.
20. Radio Engineering.

Objects of industrialisation

Government consider that the fundamental objects of industrialisation are three-fold :—

(i) To increase the national wealth by the maximum exploitation of the country's resources.

(ii) To make the country better prepared for defence.

(iii) To provide a high and stable level of employment.

Based on the 'Third Nehru commemorative Lecture on the Public Sector' delivered recently under the joint auspices of the Documentation Centre for Corporate and Business Policy Research and the Standing Conference of Public Enterprises, New Delhi.

It is axiomatic in Government's policy that the additional wealth created by industrial development should be distributed in a manner that may be regarded as socially equitable. Powers must be taken and consciously used to secure this purpose.

If India is to make rapid headway and if the standard of living of the masses is to be effectively raised, a vigorous and sustained effort is necessary in which the State no less than private industry must take a part.

A primary point in industrial policy is the extent to which the State will take part in industrial enterprise. Apart from power, ordnance factories, public utilities and railways, basic industries of national importance may be nationalised. . . .

All other industries will be left to private enterprise under varying degrees of control. There may be no control except such as is required to ensure fair conditions for labour.

Within the field considered open for State enterprise, the question whether the existing units which are privately owned should be taken over by the State will be examined on the merits of the type of each case.

Certain industries of national importance such as ship-building and the manufacture of locomotives and boilers will be run by the State as well as by private capitalists.

Government will be prepared to give adequate financial support to research organisations set up by Industrial Associations representing organised industries, and the Council of Scientific and Industrial Research.

The Government of India are examining the question of the promotion of an Industrial Investment Corporation or a similar institution.

Government will undertake to examine from time to time, the tax system with a view to ensuring that, while securing the ends of social justice and national budgetary interests, the taxation does not tend to act adversely on development.

Government have come to the conclusion that they must take power to license industrial undertakings. One effect of this unregulated freedom to promote industrial enterprise has been the concentration of industry in certain areas. There are vast areas in this country which, though suitable for industrial development, have not been developed because industry has tended to flow in particular channels.

The effects of such concentration are economic, social as well as strategic. It seems unsound from the strategic point of view that so large a proportion of industry should be concentrated in a few cities . . . . Perhaps, an even more important consideration is that concentration deprives other areas of the country of the beneficent effects of diversified economy. Lastly, it is not clear that concentration is necessarily economically sound.

Control over development would be necessary from another point of view. In an unregulated industrial economy there is likely to be a tendency for capitalists to go in for schemes which promise quick returns. This will lead to lopsided development—a scramble for some industries, with the danger of over-production and excessive competition and inadequate attention to other industries which are equally necessary in the national interest. To overcome this difficulty it would be necessary to fix targets, to allocate them on a regional basis and to see that these targets are achieved.

Government propose that they should take power to license the starting of new factories and the expansion of existing factories, for, without this power, planned industrial development will be quite impossible. At the same time in order to avoid unnecessary delays it is proposed to set a monetary limit to the plants or projects requiring licence so that very small plants, moderate extension of existing plants or replacements which do not add to output should not be subject to licensing.

In a planned economy it is impossible to do without controls. They propose that apart from licensing control should be undertaken to achieve the following objects :

Regulating balanced investment

To secure balanced investment in Industry agriculture and the social services ;

To secure for industrial workers a fair wage, decent conditions of work and living and a reasonable security of tenure. It is a fundamental objective of industrial development that it should enable the general standard of living to be raised. It would be a frustration of this objective if industrial workers do not get fair wages and decent working conditions. In the past, these matters were left largely to be settled between the employers and the workers, but it may be necessary for the State to intervene with statutory powers.

To prevent excessive profits to private capital. In the case of private undertakings, subject to free competition, it would be a mistake to discourage enterprise by undue restriction of profits.

To ensure the quality of industrial products in the interests of both internal and external markets. It is of the utmost importance to ensure good quality for the internal as well as external markets. This involves standardisation of products and administrative machinery to enforce standardisation.

To ensure that unhealthy concentration of assets in the hands of a few persons or of a special community would be avoided. This may be secured by a judicious exercise of controls, such as capital issues control and the licensing machinery for the regionalisation of industry.

To require necessary technical training of personnel and to extend the benefit of such training to minorities and backward communities.

Pre-requisites for growth

This enunciation of industrial policy for India spelled out the following pre-requisites for India's growth.

- Industrial regulation and control.
- Nationalisation of certain key industries.
- Three sectors of the Economy—Public, Private & Joint.
- Regional balancing.
- Fair deal for labour, minorities & backward communities.
- Prevention of concentration of wealth and control of Industry.

These were adopted and incorporated (but unacknowledged) more than a decade later in our post-Independence Industrial Policy and Regulation Act, through the Avadi Resolution on a Socialistic Pattern of Society for India.

The White Paper was prepared at about the same time as the Bombay Plan by a group of industrialists and the Congress Party under Nehru. The remarkable feature is that two such disparate streams of industrial thinking, as the Imperial power and Nehru, should have thought so alike. Their main rationale was that to get a balanced and technologically advanced growth, state capital would have to step in to the areas which will not offer sufficient attraction to private capital. Nehru called it the commanding Heights while the Imperial Government referred to it as Balanced Growth.

Case of public sector

Our public sector has always been in the limelight, receiving much criticism and gratuitous advice from all sides, the founders, the masters, supporters and opponents alike. Nothing succeeds like success and nothing fails like a failure. Does this criticism therefore stem from a lack of fulfilment of the euphoric expectations. that were perhaps pitched too high ! And because the performance was disappointing, instead of applying the correct remedies that had a chance of working, a lot of unprofessional solutions were applied, such as firing and sacking the corporation heads overnight, appointing them for such short tenures as two years, and worse, interference. And the unfortunate fact remains that those to whom the public sector was answerable were often themselves quite innocent of the basics of industrial structures, systems and culture.

On the other hand, a management can never hope for an ideal environment; its task it to do its best in the envirenment as it exists, though even the small measures of success induce a change in the environment and to realise that much that it wishes to achieve is within its own effort, whatever the constraints—economic, political, market or financial. Many competent managers that set out to achieve under difficult conditions, even in the public sector, did achieve, while others who spent their time talking of constraints and what prevented them from achieving failed. This has always been the search of human endeavour, of break-through under the most adverse conditions.

Having stated this, that our public sector was born of sound concepts, but often lacking in sophisticated and understanding master and courageous managers, let me state some pre-requisites of successful organisations.

- Clear-cut, consistent and manageable objectives—regularly evaluated for fulfilment, with road-blocks removed, and periodically examined for their consistency and good fit with the changing environment.
- A structure in consonance with the objectives, and one that alters with the changing objectives, needs or environment.
- Systems that ensure the proper functioning, of the structure, which in turn should been designed to subserve the objective.
- A culture that gives a predictability to the organisation's reactions, and the capacity to respond fairly to its people and speedily and competently to its tasks and challenges.

Aimless or outmoded objectives; structures unsuited to the tasks; systems that are ill fitting, cumbersome and over-expensive; a poor culture—these are the factors that affect organisational success. If the wind is behind the organisation's sails. it will move faster than if it has to sail against political and administrative headwinds.

Performance of the public sector

Let us look at the record of the public sector today :

- 172 public enterprises with total capital employed at Rs. 36,118 crores, accounting for total sales of Rs. 41,353 crores, produced a total profit before tax of Rs. 160 crores during 1982-83.
- Of this, 4 enterprises—O.N.G.C, I.O.C, O.I.L., whose prices are administered in relation to global prices, and the S.T.C largely, so far, in canalised trade—employing a total capital of Rs. 5,567 crores made a profit before tax of Rs. 1,607 crores.
- The remaining 168 enterprises employing a total capital of Rs. 30,551 crores cumulatively among them made zero profit.
- The rate of return of the 4 organisations mentioned above, as profit before tax to total capital employed, was 29 per cent.
- Had the 168 public enterprises earned even a 15 per cent rate of return—half that of the leading four—they could have given the nation, on the Rs. 30,551 crores of capital they employ, a return of Rs. 3,055 crores last year in addition to the Rs. 1,603 crores of the leading four, making a total of rest Rs. 5000 crores.

To the total national budget of India last year, it would have meant a nearly 25 per cent windfall in reverse of contribution to the national resources.

— A 15 per cent rate of return on total capital employed is quite modest ! It would allow for a 50 per cent tax, leaving 7.5 per cent, giving, say, half in dividends and half in reserves for ploughback into future growth—both quite modest.

By providing a profit of Rs. 5,000 crores, the public sector would indeed have occupied the Commanding Heights of the Economy, with a grateful nation in the bargain. Nothing would then have succeeded like such success !

And of one thing I am convinced from my quarter century association with the Public Sector of India of which were spent in active direction of enterprises one among the first four mentioned above and the other—in the leading nationalised bank—that the Public Sector can be made to turn around in 3 years, and in 5 years give the 15 per cent rate of return I suggest, rising to 20 per cent plus. It is possible because we have the talent to make it efficient and profitable, and a far from saturated market.

Turning to the solutions, they lie primarily with the share-holders, Government, who alone as the sole proprietor can take the responsibility for the success or failure of the public enterprise system, since it controls the following crucial areas :

— It is the sole owner, and takes all the investment decisions ;

— It appoints and de-appoints all top managers. And it does this without any constraints upon its capacity and freedom to act.

Naturally, the instruments it chooses—the managers—have a responsibility too, but ultimately the responsibility you expect them to discharge will be directly in proportion to how well you choose them and, having chosen, give them the support and freedom to act. I recall how one minister of hallowed memory once issued an order, quite unknown to the Chairman of the Corporation and his Secretary, at 7 O clock in the evening removing the three full time directors. As he naively put it, he did not like them at all.

Let me now come to some concrete suggestions.

Re-arrangement of ownership pattern

First and foremost we should decide whether we wish to keep it as the Public Sector or, as it is, a State Sector. Today, the public has no say, no ownership, no control. It is owned and run wholly by the state, its political and administrative set-up, and the public is kept rigidly out of it except, it might be argued, through Parliament. I would suggest that the ownership of the Public Sector should be organised on the following lines :

— A 25 per cent share by government, which it may retain to ensure a feed-in of government policy;

— 5 per cent share by employees on a stock options basis, selling back to the Company their shares at the market value when they retire, when they can buy them back in the market as members of public;

— 10 per cent shares with the lending bankers and financial institutions;

— 20 per cent shares with large buyer and seller customer organisations especially in the public sector, both as investment and for watching their interest e.g., Indian Airlines and Air India.

— 40 per cent shareholding with the public at large.

These share percentages are tentatively suggested, and there may, in addition, be a holding by a foreign collaborator. Furthermore, at the beginning and through gestation, especially of a longer duration, government, the financial institutions, and the related enterprises may to begin with own the entire investment, which would be progressively shed to the public, and others as the enterprise begins to stand on its feet. In fact, after a point, government as founder shareholder might well wish to shed all of its shares, and trust the state financial institutions to look after the interests of state policy; and utilise the funds through sale at market price to invest in and catalyse new areas and ventures.

Board

— Such an ownership pattern wou'd call for a new board pattern.

— A supervisory board representing government, financial institutions, customers, inter-corporate investors, employees, and specialists suited to the specific disciplines of the organisation.

— A working board of fulltime directors, of whom the Chairman and the Vice-Chairman would be on the Supervisory Board, both of whom must be full time employees. We must avoid retired politicians or serving administrators as Chairman.

The Supervisory Board would receive and approve a 3 to 5 year plan, the annual budget, and review quarterly performance. It is important that as their job is to supervise, they do not participate in functional committees and sub-committee, except an Audit Committee, whose task it would be to conduct annually a performance-cum-propriety review.

Decision-making

Our present system of the hierarchical, one-upon-one and vertical decision-making, where the notings usually begin at innocent lowest level of hierarchy, must be changed to a collectice, horizontal and inter-disciplinary system. Internal Committees concerned would be taught to discuss and decide, and send up for approval only those few subjects where the decisions have to be taken at the corporate level. In our system, we have refined the group decision-making in Committees into a sterile art for

non-action or to postpone it. Therefore, the present filing and noting system should be changed to a group-oriented, multi-disciplinary system of analysing a problem, assessing alternate courses of action, evaluating each, and recommending the rationale of the preferred course of action—all done with speed.

Against this frame of two-tier board system, supported by the Audit Committee, and an internal decision-making system, we could do away with the present control system involving a multiplicity of control agencies, representing the political, administrative and organisational hierarchies :

1. Cabinet;
2. Public Undertakings Committee;
3. Ministry's Consultative Committee;
4. Comptroller and Auditor General;
5. Administrative Ministry;
6. Finance Ministry;
7. Concerned Ministries;
8. Bureau of Public Enterprises.

The culture of asking irrelevent, often instigated questions in the legislature, and the whole system of controls freezes the managers' desire or capacity to act.

Instead, we need a simpler system the purely organisational system of control, which will achieve all that the present cumbersome system sets out to achieve, but does not. The new control system would comprise :

1. Quarterly meetings of the Supervisory Board;
2. Annual performance, the Budget, and the Long-Term Plans would be examined and approved by the Administrative Ministry.
3. Quinquennial review by Public Undertakings Committee.

At the Administrative Ministry's review, Finance Ministry, Planning Commission and any concerned ministries should be associated. In between, the Secretary of the Administrative Ministry will remain in touch with the Director representing him on the Supervisory Board, and, of course, the Chairman.

It is important, however, that those who control and review from outside the organisation—members of the Supervisory Board, Public Undertakings Committee and the Ministers must know themselves what they are reviewing and be in a position to impress and help those whom they are reviewing !

This is the type of system that multinational organisations generally adopt, successfully and effectively, with their large global ramifications. The key instruments of control by their Centres are only the decisions in regard to consultation and agreement on :

1. Capital and major borrowings;
2. Acquiring and dispensing of assets, above a limit, and
3. Appointing and de-appointing key personnel : in the case of the Chairman, directly, and for other senior appointments through and in consultations with the Chairman, who announces the appointments and de-appointments. They are not announced by the Centre except the Chairman's own appointment.

In effect such control will be far more effective than our present wide spanned and diffused over-control. Certainly, in no major trans-national organisation would a state of affairs exist for long, where after their first 4 companies, the remaining 168 among them cumulatively produce a zero profit, and that too in a single, concentrated and highly unsaturated market like India, whose per capita consumption of every product that these 168 firms produce is low.

Suggestions

Let me, in the end make two important points.

First, the general tendency in the public sector management to place all blame at the political and administrative doorstep is not fair, nor wholly correct. The fact is that over three decades, since its inception, the public sector has received the consistent support of different governments, for its growth and expansion. In fact, government has done this often against criticism from the public, the press and private industry, that despite its indifferent performance it has received an undue share of fresh investment and price preference. In fact, it has been felt by some that such treatment given to private sector would have produced better results. Some would go further and suggest that the incommensurate benefits the nation has derived so far would justify considering winding it up, as indeed is happening in certain countries, on the justifiable ground that the present magnitude of investment and support, especially in a scarce resource country, would be better placed with those who would make better use. Let our public sector management, therefore, be duly conscious of such favoured treatment.

While Government's own policy dogma and support to the public sector has remained stable year after year, as so also the general public support, there are many individual public sector units which have become endemically unstable and unviable, fulfilling neither their objectives nor producing any profits. It is the duty of their managements to either assure a viability or recommend their winding up.

Equally, the managers of the public sector should ask a question, whether their low profitability is not due largely to internal causes and lapses, particularly

the management of cash, working capital, inventories, cost and time over-runs, productivity, and a role range of factors which are entirely within eir control.

Government, too, as the sole shareholder, should spond to the changing needs and among other ings consider giving the public sector more effective tonomy, together with better accountability. In dition, it should consider creating a counter-veilg force that will also provide an answer to the onopoly and semi-monopoly situation in the public ctor, where the consumer at present has neither a oice nor a voice—he has to buy whatever product or rvice an enterprise offers. We have only one airie, one power supply, one minerals and metals tivity, and so on. The consumers of indigenous procts of public or private sectors, do not have a oice of importing themselves. A new capital ructure, a new board structure, and shares quoted an exchange would provide the counterveiling rce with a judgement that government and polial apparatus has not provided.

Managing the public sector is going to need a new eed of managers, whose responsibility, unlike in e private sector, will transcend far beyond a few ousand or even a few lakh shareholders. Their areholders are the Nation, and they will be answerle to the nation. They are expected to play the le of catalysts and pace-setters in R & D, chnology, propriety, price and quality, and employent. While learning and practising the normal displines of management, they will have to be trained d groomed in their national accountability. I had e privilege of starting an optional course at the dian Institute of Management in Ahmedabad in 72, after leaving the public sector. The response as excellent from the faculty for the preparation of e course, case studies, and from the students; but few business schools and colleges of Commerce is ere separate attention paid to research and traing for public sector, as there is for the administrators. ur public sector managers and management ademia will have to cooperate in such effort to ild a corpus of knowledge and practice, that will velop a new theoretical and emperical framework r the public Enterprise System. We could do with school of management, researching and teaching clusively for public sector management at the itial and post-experience levels.

If managing the public sector is going to need a w breed of managers, and if it is going to remain sponsible to the Government, the administration o will need toning up in dealing with the system, by ooming a new breed of administrators, who through ecialised training and exposure to industrial anagement and its culture are better able to deal ith their opposite numbers in the enterprises. At esent, their advantage over the managers of possesng the ultimate power to decide, is not always atched by a commensurate depth of knowledge. ey must gain this training in industrial management, and work for spells at the coalface of enterises. □

(Continued from page 17)

(The search for oil)

Steps are being taken to make ONGC self-reliant in its technological needs. Till two years ago 65 per cent of equipment was imported. This has been reduced to 40 per cent and would be further brought down to 35 per cent during the 7th Plan.

Production achievements

ONGC's crude oil production in 1983-84 was to the tune of 23.15 million tonnes. The targetted production for 1984-85 is 26.6 million tonnes. The demand for petroleum products during 1984-85 is estimated at 39 million tonnes out of which ONGC would be able to produce 27 million tonnes.

Gas : During 1983-84, production of natural gas increased by 20 per cent as compared to the previous year and the gas supplied was 2227 million cubic metres. The target for 1984-85 is 2665 million cubic metres.

Drilling : ONGC's drilling activities have shown an appreciable improvement in 1983-84 when 205 wells were drilled. During the current financial year, ONGC proposes to compete 252 wells both onshore and offshore.

Profit : ONGC made a profit of Rs. 1670 crores in 1983-84. Out of this Rs. 1500 crores will be reinvested in ONGC activities. The profit anticipated for 1984-85 is Rs. 1700 crores.

Research and Development : ONGC has established three Research and Development institutes—the Institute of Petroleum Exploration and the Institute of Drilling Technology both at Dehra Dun and the Insitute of Reservoir Studies at Ahmedabad. Offshore technology Research Division is in the offing.

The R and D efforts of ONGC are being complemented by the large and well-equipped computer service at Dehra Dun. The Centre which was commissioned in 1976 helps ONGC to process seismic data and aids it in the mathematical modelling of all reservoirs. ONGC is also taking steps to expand computerisation in the field of oil exploration, materials management, project scheduling etc. Five regional computer centres are to be set up at Bombay, Madras, Calcutta, Baroda and Gujarat.

The Institute of Reservoir Studies in Ahmedabad undertakes research in reservoir engineering. Its functions includes up-dating old production fields, selection and optimisation of primary and enhanced oil recovery techniques for oilfields etc.

ONGC's success within the country has been well recognised by countries abroad. Through ONGC India is sharing its expertise in Petroleum technology with other developing countries like Iran, Iraq and Tanzania. □

Why sickness in industry?

A.L. Roongta

Sickness in industry is a measure of pervert compassion for the 'distress' of the affluent owners of industrial assets left dilapidated at the cost of their creditors and the country. It is so because large sectors of the economy have been fossilized and straight-jacketed under feudal arrangements financed by benevolent, development financing institutions and banks, says the author.

SICKNESS IN INDUSTRY IS a very current expression in our country.

Fortunately, there is no fashion to use this word for other sectors of economy. We do not hear of sick farms or sick houses or sick roads or vehicles, howsoever under utilised or badly maintained they are.

Paradox

It is a measure of our pervert compassion for the 'distress' of the affluent owners of industrial assets left dilapidated at the cost of their creditors and the country. Through the economic literature, the press and, above all, in term lending institutions and the banks, repudiation of liability to pay to the creditors, invites the presumption of sickness.

In other countries companies get weak, get merged, sometimes liquidated. Industrial assets change hands, get disposed of, dissembled, reassembled. This is all normal and healthy, Grandparents die and grandchildren are born. Only in our blessed land, indolent and recalcitrant are supposed to be immortal.

What part of our industrial economy is not sick ? Jute mills, sugar mills, textile weaving mills and some others, apparently, are all sick. But the textile industry as such is far from sick when lakhs of powerlooms are burstingforth despite industrial bureaucracy's frenzied attempts to nip them in the bud. Despite their occasional cries of distress, quite a few of the synthetic spinning units have added spindles during the last one year in Rajasthan alone. If only our laws and government policies had not made it a 'hundred hurdles race', powerlooms would have sprung up not only in Bhiwandi, Ichhalkaranji and Surat, but practically in hundreds of towns, big and small in the country.

Yet

In Pali, Jodhpur and Balotra in Rajasthan, dyeing and printing units, despite the sword of the anti-pollution prosecutions hanging on them, have increased their number in scores and turnover on rock-bottom competitive prices in crores last year. The costly, the dishonest, the indolent, the obsolete are dying and undeterred by their mortality, new entrepreneurs are going in those very industries ! Is it not true ?

Credit Blocked

The total institutional credit locked up in sick units showed a marked increase to Rs. 3,178.85 crores at the end of 1982, from Rs. 2,389.34 crores at the end of previous year. Rs. 800 crores of subsidy by the tax-payers to promote sickness within a year ! Is it a small figure ? Figures for the next 18 months are not available. They are estimated to be about Rs. 1500 crores.

These figures were resented by the Government in the Parliament in March '84. Why are they on the defensive about disclosing the names of these eminent sick ? The grounds advanced are that banks are

given statutory protection from disclosing the quantum or particulars of bad and doubtful debts. Disclosing the names of chronic defaulters to the country and to the Parliament will help the sick and the doctors all.

Bank credit

Of the total amount of Rs. 3,178.85 crores locked up in sick industries up to 1982 end, the banks accounted for Rs. 2,577.62 crores and the all-India financial institutions for Rs. 601.23 crores. The corresponding figures till the end of 1981 came to Rs. 2,025.34 crores and Rs. 33.79 crores, respectively.

Out of 275 sick industries in assistance portfolio of all-India financial institutions (IDBI, IFCI, ICICI, IRCI, LIC, GIC and UTI) in December, 1982, those belonging to MRTP houses were 29.

Assets of MRTP houses

S.No	Name	Assets	Turnover	Profit before tax
1.	Tatas	2430 83	2883 15	213 66
2.	Birlas	2004.74	2367 08	113 69
3.	JK	620 31	575 43	1 77
4.	Mafatlal	598 89	833 31	12 32
5.	Reliance Textile	512.34	481.97	29.36
6.	A.C.C	473.07	427.48	40 97
7.	Thapar	464 50	632 24	37.48
8.	ICI	378 31	489 31	16.40
9.	Sarabhai	356 91	515 54	1 24
10	Kirloskar	334 29	445 08	32.59

An ex-Chairman of IDBI when resented with a proposal to write off the IDBI dues in a Birla managed company a few years ago going into liquidation, chose to go back to the earlier rule of thumb creditor-debtor relationship.

He summoned the seniormost advisor to the Group, presented him the choice that if IDBI's money is to be lost in one company. IDBI would disqualify all other companies in which the eminent group executives figure. The surprised elderly gentleman sought his profesional guidance : 'but wherefrom money can be put in the company at this stage and how ?' To which he naively replied, 'I do not know. I am only a banker. You are an industrialist. You people never need our guidance to take away any amount of money from companies flourishing. Why this predicament only when you have to bring in money.' The Chairman confided to the Members of the Board of IDBI that the sick dying unit got the money to clear the IDBI's dues, from the heavens!

If only we could go back to the pre-managing agency days ! Companies which do not have either money or credit at all to be able to borrow from the investment market, their credit normally would be NIL in the corridors of financial institutions also.

An observation

It is interesting to know what a Non-Resident investor, Swraj Paul said, "big industrialists have invested a total Rs. 140 crores but they exercise control over capital worth Rs. 26,000 crores. On the other hand, the country has already taken loans on questionable terms from the International Monetary Fund, while persons who have benefited from governments industrial credit and subsidies have invested huge sums in foreign lands."

Piloting the recently enacted Bill for IRDB, Finance Minister, Mr. Pranab Mukherji was himself constrained to concede to the chorus of a demand from either side of the House for something drastic about the current epidemic that falling sick and continuing sick had become something of a vested interest.

COSIDIC members

Fortunately, two-third of the total development financing of industry done by IDBI is through the memebrs of COSIDICI. In 1983-84 approximately Rs. 1,000 crores actually were disbursed. Hundred per cent repayment in time of this money stands insured through the wonderful federal system of our development financing structure. An Industrial Development Corporation (IDC) or a State Financial Corporation (SFC) may catch cold, may suffer temporary fever also. But the very system forbids it to die a slow death from Cancer or TB. This is the prerogative only of companies guardianed by the affluent. In this Orwellian Year, 1984, the large-scale sick industries have a 'Big Brother' in FICCI or similar organisations, which always put the government in the dock and continue pressing for more succour. One such pleading before the government said on 12 July, 1984 : The Economic Times, "...... there is no reason why fiscal and credit reliefs should be denied to an industry while it actually falls sick."

Diversion of funds

The causes of sickness have been analysed time and again. Among a plethora of ills cited by the industrialists, 'an act like diversion of funds' is seldom brought to the fore, which, in fact, is a major factor causing in the 'healthy' to gradually become 'sick'.

In a 1979 study conducted by the Reserve Bank of India on the causes of industrial sickness in 378 large units (with bank borrowings exceeding Rs. 1 crore), two thirds of these units were found to have turned sick owing to managerial deficiency and outright mismanagement, including 'diversion of funds'. It is ironical that not a single unit was found to have turned sick due to shortage of a major input : credit, particularly for meeting working capital requirements Perhaps it is too much to expect bankers to recognise 'their own' contributing to 'sickness'.

*Causes of Industrial Sickness in Large & Medium Industries (1979)**

Causes	No.	%
(a) Mismanagement/management deficiency (including diversion of funds, infighting, lack of marketing etc.)	197	52
(b) Market recession	86	23
(c) Faulty initial planning and other technical drawbacks	52	14
(d) Labour trouble	9	2
(e) Other reasons (power cuts, shortage of raw material etc.)	34	9
Total	378	100

*RBI analysis.

Besides the all-India institutions (IDBI, IFCI, ICICI, LIC, IRCI), the scheduled commercial banks have a vital interest in rejuvenation of sick units. Of the total amount of institutional credit of Rs. 3,179 crores advanced to sick units as in December, 1982, over four-fifths comprised bank credit.

Growing Industrial Sicknes

As at end of	No of Sick Units	Outstanding credit (in Rs. crores)
A. Scheduled Commercial Banks		
December, 1979	22,366	1,622 55
December, 1980	24,550	1,808 66
December, 1981	26,758	2,025 54
December, 1982	28,360	2,577 62
B. Financial Institutions		
December, 1979	202	279 00
December, 1980	205*	325 87
December, 1981	224*	388 79
December, 1982	275†	601 23

*IDBI, IFCI, ICICI.

† IDBI, IFCI, IRCI, LIC, UTI.

Static dynamism

Large sectors of our economy have been fossilized and straight-jacketed under feudal arrangements financed by benevolent, development financing institutions and banks. They are regularly subsidized on their deficit financing with the hard-earned money of the tax-payer and the depositors in the bank. Seminars in salubrious surroundings are held, in our country, going round and round over a static situation, concluding wisely that it must remain STATIC. So long as such seminars can be financed by governments, banks and the creditors, sickness can thrive till eternity.

Today, 50,000 and odd industrial units reportedly sick include the eminent conspicuous presence of about 500—those owing Rs. 1 crore and above. It is these who owe 90 per cent of the Rs. 3,100 crores so far blocked. The small in their totality are sick only to the extent of Rs. 350 crores which would be less than what the small entrepreneurs would be losing out of their hard-earned money perhaps every year in the fierce competition in which they operate.

A thought

If only the SFCs were given a directive by the State Government and IDBI who jointly own them, that they would like these 50,000 or so closed or nearly closed industries to start functioning in the hands of doctors keen to put in their own entrepreneurial capital to cure them of their illness, the present culture and power of SFCs are result oriented enough to change the national scene within a year. □

Srisailam hydro project

WITH THE COMMISSIONING of fourth Hydro Generator Unit of 110 MW at Srisailam plant recently, the installed power generation capacity of the project has risen to 440 MW. Srisailam project seeks to harness the vast potential of river Krishna by constructing a 157 metre high dam after its confluence with Tunghbhadra in district Kurnool of Andhra Pradesh.

The Hardwar Plant of Barat Heavy Electricals has supplied seven hydro generator sets of 110 MW each for this project. The four units for Srisailam Stage-I have already been commissioned. The three sets for Stage-II are in various stages of erection.

When all the four sets of Stage-I are commissioned the annual energy contribution from this project to the grid will rise to 2600 million units. It will further increase to 3700 million units after the commissioning of the balance three sets of Stage-II. The Srisailam Hydro Electric Scheme would not only release surplus water in the Krishna basin but is also aimed at supplying water to Nagarjunsagar reservoir enabling its hydel units to generate power round the year. □

Third Northern Railway trunk route

AN ALTERNATIVE BROAD GAUGE route between the northern and eastern regions will be available with the conversion of the Samastipur-Barabanki and, the Barauni-Katihar metre gauge sections to broad gauge. There is every possibility of utilising this route when completed as the third alternative northern trunk route.

The new alternative Broad Gauge line from Lucknow to Katihar and then to Gauhati or Howrah will be very handy to divert trains from the eastern regions to the north and west.

This route will help cater to the increased traffic movement between the western region of Punjab, Haryana, Himachal and U.P. and the eastern and northeastern region of Bihar, West Bengal and Assam along with other sister States. The Railways are also considering a proposal to carry out doubling of the Moradabad-Bareilly section, which is the only single line section on the trunk route west of Lucknow. The cost of the project is estimated to Rs. 26.95 crores. It is proposed to be taken up during the Seventh Plan.

(Contd. from page 7)

Environment: Beyond pretty trees and tigers

tree planting. Once the women are organised and mobilised, the evidence is that they work with great keenness and they fight any obstacles that may be created by men, and we get as a result, some of the highest tree survival rates found in afforestation efforts. It has also been found that when women get involved in afforestation, they tend to demand fuel and fodder trees, trees which can meet household needs, whereas men demand trees that can generate cash. The highest ally in the demand for an ecologically and socially sound nature is, therefore, womankind.

Women now have to go out and also earn some cash. Millions of rural women today sell firewood in the towns and cities. If we look at the quantum of firewood consumed in the cities, we can say that atleast 2-3 million people must be doing headloading—bringing wood on their heads to sell in the towns—making the firewood trade the largest employer in the commercial energy sector of the country. So when no other work is available, headloading at least provides some income.

Every headloading woman knows that the forests will be soon destroyed and even this horrible occupation will come to an end. But they are afraid that if they do not take advantage of the forest now, the foresters will sell it off to a contractor soon. The forest departments are extremely keen to get headloading banned. They have made no study of the phenomenon of headloading. They have not made any plans to meet the firewood needs of the cities They have obviously not made any effort to connect the two issues. Foresters have become environmentalists : they say that these women destroy young trees, lop trees, excessively : therefore, ban them. No wonder forests are a major issue in most tribal agitations.

Holistic management

If these be the problems, then what do we do about them? First of all, there must be a much more holistic thinking regarding the management of our land and water resources. And this will not be easy, unless a determined effort is made. For all the talk about the needs for a scientific temper, it must be recognised that the current methodology of scientific analysis carries within itself an extremely unscientific practice, that of, reductionism It is this reductionist approach that has today produced both natural and social scientists who know more and more about less and less : who know how to cure a disease but create another disease in the process. Ecology is the first scientific discipline that has actually forced people to integrate and not reduce. Let me illustrate this by describing what is happening to the three major components of our land : our forest lands, our crop lands and our grazing lands.

The destruction of forests has a major impact on the productivity of our croplands. This happens in two ways. Soil erosion increases manifold and the soil literally gets washed, leading to an accentuated cycle of floods and droughts. But equally important is the impact of the shortage of firewood on the productivity of croplands. When firewood becomes scarce, people begin to burn cowdung and crop wastes. In many places cowdung and crop wastes are now the major sources of cooking energy. Thus, slowly every part of the plant gets used and nothing goes back to the soil. Over a period of time, this nutrient drain affects crop productivity. Add to this, the technology of the green revolution : the technology of growing high yielding varieties on a limited diet of chemical fertilizers like nitrogen, phosphates and potash. The total biomass production goes up and so does the drain of the nutrients from the soil.

Land for agriculture

If existing crop lands and irrigation water resources are not used well, then faced with a rising population the demand for colonisation of marginal lands for agriculture will grow. As large parts of the country have excellent soils and enormous sunlight and the only shortage is of water, government programmes have also promoted the cultivation of marginal lands, especially through spread of irrigation. Fortunately, the rate of expansion of the cropped area has now come down as compared to the 1950s and 60s but enormous ecological damage has already been done. Even more than forest lands, crop lands have expanded on to grazing lands. The result is that graziers have been pushed on to lesser and lesser grazing lands. This has in turn led to the overstocking of grazing lands, destroying their productivity and impoverishing the graziers in the process.

The graziers have taken recourse to two strategies in such a situation. As the environment becomes more and more hostile, they get rid of the more vulnerable cattle and start keeping goats. The number of goats in Rajasthan has expanded dramatically—much faster than any other livestock. Environmentalists may howl that the goat is highly destructive of the environment but it is a far better suited animal to the hostile environment that we human beings are creating in Rajasthan, Gujarat and Maharashtra. It makes economic sense for the grazier to reduce his risk during a period of drought, which is common in these areas.

The herders try to solve their problem in yet another way : they begin to use forests as grazing lands. This infuriates foresters who see goats and cattle as the worst evil ever devised. It is true that India's forests are among the most heavily grazed forests in the world. As forests are now disappearing in Rajasthan and Gujarat, nomads from these states now enter Madhya Pradesh in large numbers, still a heavily forested State.

Loved by foresters

Meanwhile, however, the foresters have found an ingenious solution : plant trees like eucalyptus which cannot be a browsed by animals, Eucalyptus is loved by foresters exactly for this reason. There are many who doubt the ability of eucalyptus to produce more wood than many indigeneous species. But it is indeed ironic that when the country faces an acute fodder crisis, the forester can only plant eucalyptus and

produce non-browsable biomass, that is, we must do exactly the opposite of what the people need. In fact, eucalyptus is the true weed from the point of view of the landless. It is non-browsable like all fast-spreading weeds and does not benefit the poor unless they own land.

But in this manner the cycle of destruction is complete. The forest departments have destroyed forests by selling off timber to the industrial and urban interests. The firewood shortage and the resulting soil erosion is keeping the productivity of Indian agricultural lands low. Crop lands have expanded on to marginal lands and have reduced grazing lands. Animals have moved into forests and are preventing regeneration. All the chickens are coming to roost. Meanwhile as landlessness and joblessness grow even groups like the tribals who from times immemorial have lived in total harmony with forests are turning against forests and want to sell them off as fast as they can.

Experts sit in grand isolation. Foresters have no interest in fuelwood or in crop lands. Agricultural experts have no interests in animals or in grazing lands. Animal husbandry people never tell foresters that they must produce fodder banks.

Rebuild the nature

Nothing could be more important for planners and politicians today than to rebuild nature. But this can only be done if we re-establish a healthy relationship between the people and their environment. Then only a nature that is useful to the millions, not for making millions, can be re-established. Regardless of what happens in the West, for all its electronics revolution, its biotechnology inventions, its communications setellites, its efforts to mine the oceans and its efforts to build solar cells and wind mills, regardless of how much we may want to catch up with the West in the name of modernisation, rebuilding nature and rebuilding its relationship with the people will remain the only way to solve the problem of poverty and possibly even unemployment. With some 100-150 million hectares of waste and nearwaste lands and with the crying need to produce biomass, this country can never get a better opportunity to harness the power of its people to the power of its land, to strike at the roots of landlessness, poverty and unemployment, all at the same time.

If enough biomass was available, poverty, that is, lack of cash, as defined by economists and by the modern civilisation, will not disappear. But definitely the rigours of poverty, the increasing susceptibility to natural emergencies like floods and droughts and definitely the *increasing* rigours of poverty will be arrested by creating more biomass. In fact, conventional measurements of poverty based on income data or on food calories are cleary *inadequate* in a situation where the rest of the biomass needs are becoming increasingly difficult to meet and collecting them on a daily basis constitutes the worst (and growing) drudgery humankind, especially womankind, has ever known. These calculations are not only just inadequate but they also reflect a strong gender bias because they deal mainly with aspects of poverty (lack of cash) that the m[illegible] generally concerned with but not with those a[illegible] of poverty that the woman deals with (lack of fodder, water, etc.).

If we were to construct a concept like [illegible] Nature Product, we would find that for the [illegible] it is this indicator which is many times more i[illegible]tant than the conventional Gross National Pro[illegible] In fact, we can even say that those who do no[illegible] much from the conventional GNP—the poor- the ones who are most critically dependent o[illegible] Gross Nature Product. The Gross National Pr[illegible] cannot be allowed to destroy or transform the [illegible] Nature Product.

Just as the economists get very worried abou[illegible] structure of the Gross National Product, it is eq[illegible] important, if they have the poor in mind, that [illegible] get worried about the structure of the Gross N[illegible] Product. It is not just the quantity of biomass [illegible] is important for meeting basic household need[illegible] also its diversity : sources of biomass within [illegible] village ecosystem must be diverse enough to [illegible] the diverse household needs. During perio[illegible] drought and resulting crop failures, which are r[illegible]ring phenomena in many parts of India, [illegible] leaves and wild animals in the forests, used [illegible] become important, alternative sources of [illegible]tion. Surviving on the forests during a droug[illegible] common in Bastar.

The combination of trees, grasses, crops, an[illegible] and ponds, which will found in almost every v[illegible] was an extra-ordinarly interactive and resilient s[illegible] to emergencies. Instead of destroying this con[illegible] and interrelated system, science must be [illegible] to build on it. In other words, it is [illegible] enough to preserve biological diversity in [illegible] those areas of our country where the flora [illegible] fauna are genetically rich and diverse by settin[illegible] biosphere reserves and national parks, but [illegible] biological diversity must be preserved and/or recr[illegible] in every village ecosystem. Concentrating on[illegible] production of a few commodities (cereals, [illegible] instance) is totally inadequate in a society whi[illegible] only partly monetarised and where the vast maj[illegible] still has to depend on access to free biomass reso[illegible] from the immediate environment. Every village [illegible] to become a biosphere reserve.

Green co[illegible]

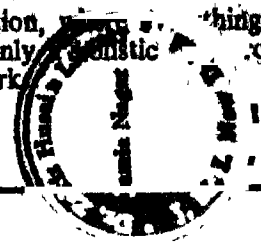
The answer to India's immediate proble[illegible] poverty lies in increasing the biomass availabl[illegible] nature and increasing it in a manner that a[illegible] to it is ensured on an equitable basis. But givi[illegible] 'green cover' to the country—the real green re[illegible]tion—would probably require the most ho[illegible] thinking that planners, economists and scie[illegible] have ever known. The conflicts and complemen[illegible]ties in the existing land use patterns have t[illegible] extremely well understood. Otherwise l[illegible] use patterns will remain as chaotic as t[illegible]

Poorer peasants will continue to oppose planting trees on community lands under so-called social forestry programmes because they are afraid this will take away their grazing lands. Forest Departments and richer peasants will only plant those trees which animals cannot touch (like eucalyptus) even though there is a stark fodder crisis all around. Nothing could take us close to Gandhiji's concept of gram swarajya than striving to create village ecosystems which are biologically diverse and self-reliant in their local biomass needs to the maximum extent possible. This will clearly demand an extremely intensive use of our natural resources like land and water to create a huge and diverse growing stock of biomass. Any science which teaches how to do this will truly have the right to be called a people's science—and indeed it will have to begin with the knowledge of the people.

An even bigger challenge is before social workers and workers and politicians who have to play a crucial role in ensuring that people can participate in this biomass-based development process. No biomass-based strategy can succeed without the involvement of the people especially women, without whom this work cannot be done.

The role of women in recreating a healthy and useful environment cannot be overstressed.

Immediately, at least, the country must recognise that a clear biomass policy is desperately needed, which recognises the competing uses for biomass in society, especially between biomass-based industry and poor households and sets clear priorities on the use of biomass in a situation of scarcity. The needs of the poor must be specified as a priority use of biomass in the existing situation of environmental degradation.

If we fail to recreate nature on a massive scale in a manner that generates employment and equity, not only our villages but also our cities will become unlivable. Many people prefer to call the urban migrants economic refugees from the countryside—to my mind many of them are really ecological refugees displaced by dams, by mines, by deforestation, by destruction of grazing lands, by floods, by droughts, and what not. We are today the world's fourth largest urban population. Before the end of the century we will be the largest. Managing this huge urban population will call for extraordinary political and managerial sagacity, something we cannot learn from the rest of the world. But one thing is definite, if the process of urbanisation continues to create the same demands on our rural environment it will only accelerate the destruction of the rural environment and in turn make the urban environment impossible to manage. India cannot survive without a low-energy, low-resource input urbanisation. In its absence, no law or laws which try to turn the incoming ecological and economic refugees into our cities into criminals will work. Barbara Ward told the Stockholm Conference that if ecology teaches us anything, it is that we have only one earth, in which everything is related to everything else. I am today tempted to paraphase her : we, too, have only one nation, [illegible] thing is related to everything else. Only [illegible]stic [illegible]oach to our problems will work.

National awards to teachers

THE PRESIDENT, GIANI ZAIL SINGH, gave away the National Awards to Teachers for the year 1983 at a function in New Delhi last month.

One hundred and fifty nine (159) teachers were selected for National Awards of which 84 were primary teachers, 67 secondary teachers, five teachers of Sanskrit Pathshalas and three Arabic|Persian teachers of Madrasas as run on traditional lines.

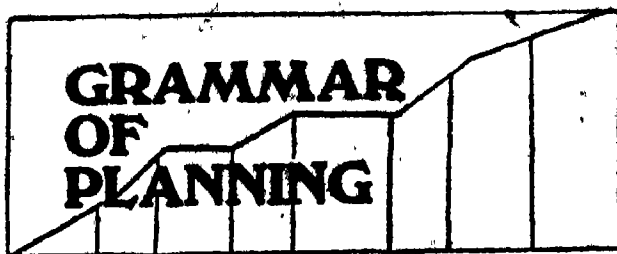
Each award consists of a certificate of merit, a silver medal and cash payment of Rs. 1,500.

Of the 159 teachers selected for the award, 16 were from Uttar Pradesh, 14 from Maharashtra, 13 from Tamil Nadu, eight each from Andhra Pradesh, Bihar Madhya Pradesh and West Bengal, seven each from Gujarat and Karnataka, five each from Orissa and Rajasthan, four each from Assam, Haryana, Himachal Pradesh, Meghalaya, Punjab and Sikkim, and two each from Jammu and Kashmir, Tripura Andaman and Nicobar Islands Arunachal Pradesh, Chandigarh, Delhi and Pondicherry, and one each from Goa, Daman and Diu and Mizoram. Two teachers each from the Central Board of Secodnary Education and the Kendriya Vidyalaya Sangthan, and one Arabic teacher each from Assam, Kerala and Uttar Pradesh, and one Sanskrit teacner each from Assam. Bihar and Orissa and two from West Bengal were also given the National Awards.

Europe to launch remote sensing satellite in 1989

Europe expects to launch its first remote sensing satellite in 1989. The £325 million project will provide global wind and wave information within three hours to offshore industries, shipping and those involved in oceanographic, fishing and other maritime operations.

ERS-1 will complement the U.S. Landsat satellites which have been "observing" the earth and supplying data and pictures since 1972 that include information about crop production, the availability of water, and the location of minerals.

The new European crafts will provide radar rather than optical images, and give information about global sea-state, sea-ice conditions and related processes.

A Serialisation 9

The organisation of planning

P. R. Dubhashi

In the previous chapter, the author highlighted the substance of planning which consists of programmes of production and distribution in different sectors of economy. Here he discusses the various patterns of planning organisation, different in structure, strength, character and location in the administrative and economic system.

IF ANY NATION UNDERTAKES aggregative or comprehensive planning, it becomes necessary for it to consider the establishment of a suitable planning organisation. If planning is of an indicative type, a small organisation, as in France, consisting of highly qualified economists and technical personnel would be adequate. On the other hand, with the entire economy taken over by the state and with the system of imperative planning, an elaborate planning organisation, such as Gosplan in Soviet Russia, may become inevitable. However, even where the planning organisation is small, such are the ramifications of planning reaching throughout the economy that it becomes necessary for the planning organisation to set up numerous consultative bodies or working groups on which are represented major agencies, institutions and interests in the economic system.

A separate organisation

Where the country is large and has a federal organisation, it becomes necessary in addition to the planning organisation to set up a larger body representing both the constituent units and the federal government. There are different possible patterns of planning organisation—different in structure, strength, character and location in the administrative and economic system.

One point of view may be that there is no need for a separate planning organisation-but it must form part of the government itself. In the latter case, a point still arises whether the planning organisation should constitute a separate wing of Government or should form part of an established department. Thus, one point of view is that the planning organisation must be in the personal office of the Prime Minister, while another view is that it should form part of the Finance Ministry. A third view is that there should be a separate planning Ministry. In all these patterns, planning organisation will function within the framework of government administration. It is felt that such a set-up may not be conducive to the distinct and all-pervasive influence which planning must exert over the administrative and economic system, since the planning organisation would be subservient to the estabilished organisation of which it forms a part. Only a strong separate organisation can spearhead the process of planning.

If a separate planning organisation is set up, its character and the nature of its functioning have to be decided upon. Should it be only advisory in character or should its decisions be mandatory or binding on all limbs of government ? Should it be an expert body or should it have a political authoriy ?

An advisory body of experts

It is not easy to answer the questions inasmuch as planning is a peculiar combination of economic arithmetic and political choice. Matters like input-output tables, material balances, manpower planning, consistency of targets and economic relationships—these and many others are obviously pure matters of technique and technology of planning. On the other hand, matters like choice between current consumption and future benefits, between high rate of growth with greater sacrifice of current consumption and low rate of growth with little sacrifice of current consumption, choice regarding sharing the burdens of planning, by different sections of the society, the extent to which means of production should be socially owned—all these inevitably involve wider issues and judgements which must require

be representative of the nation as a whole.

If the separate planning organisation consists of persons who are only experts and who are appointed by those who exercise political authority with no inherent powers of their own, then obviously its functions are mainly in the realm of planning technology, i.e., preparation of framework and document of planning. The planning body must work out such plans within the framework of choice of the political authority. Such an agency, therefore, is purely advisory in nature and derives its advisory authority from its expert character.

In such a set-up, there is a fear that the advice regarding planning by such a politically neutral planning authority may be totally neglected by the governmental authority. One way out of this impasse is to make the planning authority consist partly of experts and partly of persons who yield political authority. Thus, as in India, the Prime Minister should be the Chairman of the Planning Commission, the Planning Minister its Deputy Chairman, and the Finance Minister as its member. An immediate disadvantage of this arrangement would be that the planning authority would lose its independent character and would act in a manner subservient to government and to political authority. Its economic arithmetic would be modified to the dictates of the political will.

Thus, whatever be the character of the planning organisation, it is likely to be caught up between the two evils—impotency and ineffectiveness on one side and loss of independence on the other. It is not easy to find out a via media between these two. A way out of this impasse is possibly the French pattern of planning organisation. There, the permanent machinery of planning consists of Commissariat general du Plan. It consists of Deputy Commissioner and Secretary-General and forty Councillors and heads of mission representing wide range of activities. It is a neutral organisation but neutrality is found to be advantageous since this has enabled it to emerge as a round-table for ministers—"a neutral ground where private interests, civil servants, and even different departments of one ministry can come together and air their differences, uninhibited by considerations of personal status.

The French Commissariat is not just an advisory or consultative body like the Dutch Planning Bureau or Council of Economic Advisers to the President of the USA. It is not divided from the executive. The Commissioner General, personally or through his representatives participates in the working bodies whose decisions are enforceable. Thus, Commissariat du Plan is something more than an advisory board and something less than a real centre for the coordination of economic policy.

If a separate planning organisation is set up, the question of its organisational strength and staff arises. Planning is a complex function involving economic, technical and administrative considerations. These have to be related to the entire gamut of the economy and the society in all spheres and

It requires deep understanding of the policies and their implementation, programmes and their execution. Economic development is not purely an economic phenomenon. It is inevitably accompanied by vast social changes. A profound understanding of the sociological aspects as important as that of economic and technical intricacies. The Planning authority at the highest level, thus, must embody a wide ranging expertise in the fields of economics, finance, sociology, public administration and science and technology in all spheres, but specially in agriculture and industry.

The planning authority has to be adequately equipped with the staff. It is rightly stated that the staff organisation of the planning authority should not be on the lines of an organisation of regular governmental department. It should not be bound by hierarchy. Also, mere rules of seniority or regular procedures of recruitment would not be appropriate for staffing the planning organisation. It might be necessary for the planning organisation to draw, on a contractual basis, qualified persons from various fields including academic institutions and business and industrial organisations in addition to the government departments.

While planning is an all-pervasive activity, composition of the staff of planning organisation need not necessarily be paralled to the governmental administration. This is likely to attract the criticism that the planning authority is a parallel government.

This is more so if the planning authority starts taking up bits of executive functions. The temptation to do so is considerable. But if the planning authority slowly takes upon itself some execution functions, it will lose the sharpness of its planning activity and would itself be a road-block in plan execution.

Staff strength

How big should be the staff of the planning organisation depend on the nature of planning. Indicative planning may require limited staff while comprehensive imperative plan would require a huge staff. Thus, the planning agency in France in 1963 had professional staff of about 35, while in India it was about 180. Gosplan in USSR has a much bigger staff.

The professional staff in French organisation of planning increased to 150 from original 35 after productivity councils were amalgamated with it in 1959.

There may be different paterns of the internal organisation of the planning authority. One suggestion is to divide the organisation into three parts—one responsible for plan formulation, another for plan supervision and monitoring and third for plan formulation, evaluation. In each of three parts, there has necessarily to be both sectoral and spatial work distribution.

All aspects of planning would necessarily required an efficient organisation for statistical and economic

analyses. As planning becomes more and more sophisticated, it makes greater and greater demand on date of various types. However, the work of data collection, monitoring and evaluation should not develop into a full-fledged research activity. It must be left to the academic and research institutions. This is what is done in France. There, the Commissariat works during the actual preparation of the plans in the closest possible association with several administrative bodies, such as the Department of Economic and Financial Studies in the Ministry of Finance, the National Institute for Demographic Studies and the Centre for Consumer Research, Study and information.

Inter-linking the groups

Another possible way of organising the work of the planning authority would be to divide it in different groups concerned with the perspective short term and annual plans. However, it is doubtful whether such a division in the work of the planning organisation would be appropriate. For each sector of planning, perspective planning, short-term planning and annual planning should be interlinked or else while perspective planning presents one picture of development. the short-term and annual planing would go on altogether different lines.

Since planning is essentially mobilisation of natural resources, financial resources, manpower resources and administrative organisation, it may be possible to divide the internal working of the planning authority into groups concerned with each of these types of resources.

The mere existence of a separate planning organisation would not do away with the need for planning functions within the regular departmental set-up of government. Thus, it is suggested that there have to be planning cells within each department .It would not, however, be proper to leave the work of the planning cells to a minor functionary. The head of each department must assume the responsibility for planning.

Though there may be a separate organisation for planning, for the actual preparation of plan, collaborative effort between it, the ministries of government and representatives of the various sectors of the economy is needed. Thus, in French planning system, plans are not prepared by its staff of 150. Between three to four thousand other people help to prepare them through the device of Modernisation. Commissions, Bauchet calls those Commissions, the real original feature of the French system. All these Commissions work in close collaboration with representatives of all social categories—government, and different branches of industry.

Whereas in Soviet Russia, government is subordinated to party organisation, the party organs must have their own planning set-up. Even in a democratic set-up, where party and government are distinct, parties must have their own forums in order to mobilise popular participation in planning.

State level planning

In India, the planning machinery at the state level is still in the process of evolution. A study of planning apparatus at the state level published in 1969 states : "States do not have planning machinery worth the name. Most States so far have tended to treat planning as a periperal function to be performed by an official who has no special qualifications for it . . . The work of this official, generally has been to corrdinate the schemes submitted by Development Department. It will be no exaggeration to speak of state planning as departmental planning. Because of the absence of an expert body like the Planning Commission at the state level, state plans have lacked definite objectives, priorities and interdependencies.

However the position is now changing. The planning Commission is goading the states to set-up a full fledged machinery of planning at the state level. In addition to the planning Department, planning cells in development departments, the inter-departmental committees and the Cabinet Committees and the Cabinet Committees on Planning, the states like Tamil Nadu, Kerala and Karnataka have set up Planning Boards supported by properly qualified staff. The process has to continue at the state level and descend to the regional, district and local levels.

In a large country, the states or the republics would have necessarily to bear the responsibility for a considerable part of planning which may have to be decentralised to the state or republican level. Therefore, there is a need for a well-equipped planning organisation at the state or republican level. It may not be as elaborate a body as at the national level but it must have sufficient sophistication to take up planning on its own. Otherwise a weak body at the state level not be able to bring to bear on the process of planning an informed judgement about the local needs and resources. A weak planning organisation at the state level would necessarily lead to reduction of the planning function to mere compilation of department schemes.

As the planning function descends to the field level, the distinction between the plan formulation and plan execution, planning organisation and departmental organisation ends to be blurred. However, the need for some specialism and expertise in planning at the regional and local levels is strongly felt. Epilepsy at the centre and anaemia at the periphery will not be conducive to the planning in depth.

The weakness of planning machinery at the regional and district levels is not only a feature in India but in other countries as well. Bauchet point out that it took seven years to prepare in 1962 regional plans in France, known as "Regional Plans for Economic, Social and Territorial Development" largely owing to the absence of any regional economic administration. In an attempt to set up a suitable geographical framework, each district has now set up a permanent organisation to study and coordinate public utility programmes and the implementation of regional plans. One of the prefects, known as the 'coordinating prefect' acts as its chairman.

(Continued on page 34)

Methods of birth control Choice is yours

Prof. Vera Hingorani

More and more couples are realising the advantages of having a small family. Good health, education and general welfare of the family members can be ensured only if their number is small. Here are the methods available to the couples who want to keep their families small.

INCREASING NUMBER OF PEOPLE are beginning to realise that for the welfare of the family and nation, the family should be of small size. Welfare of the family should include good health, good living and good education.

Size of the family

Our slogan "we two and our two" appears to be appropriate irrespective of the sex of the children. Our constitution does not discriminate between the two sexes and we all should collectively endeavour and see that this discrimination between the sexes that exists in our social system is removed.

Just as we protect ourselves from nature i.e. from rain, heat and sun with umbrella, clothes and house, the same way we can protect ourselves from unwanted children by using effective and reliable methods of birth control which are available now.

When to marry ?

For the girls, age between 20—25 years is appropriate for marriage as by then growth is fairly complete. Though some who for academic reasons have delayed it further, may not have really suffered much because of the delay.

Between 20—30 years is the best time for women to have their two children and preferably the first one should be born between 20—25 years, as everything is favourable for the first delivery during that time, though for any particular reason if it is to be postponed, then with good care, results can be almost as good.

When a woman gets married around the age of 20 years and does not want to have the first child for a few years what is the best contraceptive? If she is interested to have something that is foolproof and practically 100 per cent effective, then she should take the oral contraceptive pill regularly i.e. a three weeks course of one pill daily, starting on the 5th day of the menses. After three weeks course she has to stop it for one week. During this time she will have the menses and then she starts again on the 5th day of menses.

She has to strictly follow this schedule, as forgetfulness to take a pill can lead to conception. This risk can be reduced if missing a single pill is made up by taking two pills the next day. However, for all women this method may not be advisable as a blanket precaution as there may be certain contra-indications to the use of the pills in the following conditions ;

(1) Known cases of heart disease or epilepsy
(2) Recent Jaundice
(3) Patients with diabetes or high blood pressure or kidney disease
(4) Patients with history of thrombosis
(5) Patients with menstrual disorders—heavy or scanty or irregular periods
(6) Any malignancy
(7) Any other major medical or surgical problem

It is advisable to have a consultation with a Gynaecologist before starting this contraception (the pills) and then see the doctor periodically i.e. yearly. Periods tend to become scanty after the pills, and if they stop altogether then doctor should be consulted and another method may be adopted.

What is the alternative method available for the persons for whom the pill is not suitable and also for those who may not be keen on 100 per cent effective method? Such couples can practice the use of the conventional methods i.e. condom for man with spermicidal jelly for the wife, or use of diaphram for the woman which is used alongwith the spermicidal jelly. These methods when used in safe period, with practice of obstinence in the dangerous (fertile) period, can be highly effective contraceptive methods. Since use of

condom does not require doctors to do the fitting as is required by diaphram, condom therefore remains the most common though least effective method of contraception.

In Western countries, where there is lot of promiscuity, very small intrauterine devices have been developed for use by women wishing to postpone the first pregnancy. We do not recommend this, and advise this only to women who have proved their fertility with atleast one child, because of the small risk of infection which is associated with the use of this device. This may sometimes cause infertility.

Contraceptives for spacing

Breast feeding is encouraged for all mothers as it is not only good for the mother but also for her baby. Breast feeding, apart from reducing the risk of cancer-breast and cancer-body of the uterus, also works as effective contraceptive method for initial 3-6 months, specially for mothers, whose babies receive only mother's milk and are fed frequently (2-3 hourly). However, to play safe contraceptive protection is required and for practical purpose intrauterine contraceptive device, inserted 8-10 weeks after delivery, will give her good protection. This is considered as best contraceptive at this time, as while she is breast feeding, she may not be menstruating and by the time she weans the baby or starts her periods after delivery, the device has nicely settled down and does not cause excessive bleeding which otherwise is one of the common side effects of intrauterine device.

Alternatively, if she prefers to have hormonal contraception, she can take the pills but only after the baby is six months old. She could also take two monthly *Net* injections which are available at large centres after she has resumed the menses. Condoms with cream or diaphram with cream available at all centres, may be used during the time before intrauterine contraceptive device (IUCD) is fitted or hormonal contraceptive is started, or may be used only as a third choice.

Terminal methods

For those couples who have completed their family, who should be operated—husband or wife? For all practical purposes, vasectomy is a simpler, smaller operation done under local anaesthesia as outdoor procedure when a man can walk in for it and walk out after it. WHO studies have shown that the men who had vasectomy performed 10—20 year earlier were in better health than the control group of men of the same age, who had not had this procedure. In spite of these facts, in our country, except in 1976, more women have accepted operation on themselves. They are highly motivated to go through it, as it is they who suffer the inconvenience and the risks of unwanted pregnancy. The operation can be done after delivery or after abortion, or as an interval method. As an interval method or when combined with the abortion procedure, laparoscopic operations have been quite popular.

Idea of safe period, also called Belling Method, is based on the fact that in a woman who menstruates regularly i.e. every 28 days, her ovum is formed around 14th day from the 1st day of the menses. Since ovum can live only for 24 hours and if she can avoid sex for a period of one week that is three days before and three days after the ovulation, perhaps she may escape getting pregnant, even though she has sex at any other time without using any other contraceptive method. In Belling Method, she begins to recognise the beginning of formation of the egg which is associated with clear mucoid vaginal secretion. This method has rather, high failure, rate as firstly, it calls for abstinence during the critical period, and secondly, some common vaginal infections can effect the nature of vaginal discharge. In highly motivated women good results have been claimed in "Belling Method."

New devices

A few new methods in contraception are presently under trial. These are likely to be available for general use in near future.

1. Net INJECTION—monthly or two monthly.
2. NET with Estrogen injection—monthly.
3. NORPLANT—expected duration of use 3-5 years.
4. Hormone containing vaginal rings for use—1-3 months.
5. Hormone containing IUD
6. IUD with larger amounts of Copper than Copper T device to last longer and IUD with silver.

Methods now under trial and may be available in distant future:—

1. Vaccine for female.
2. Vaccine for male.
3. Hormone preparation for male.
4. Hormones to be administered in minute doses by nasal spray for both male and female.
5. Device in vas for male.

(Based on a public lecture series of All India Institute of Medical Sciences, New Delhi).

(Continued from page 32)

Where plans are the joint responsibility of the central and state governments, a supreme organisation representing the highest political authority at both levels as well as of the planning authorities becomes necessary. In India, such an organisation has been constituted in the form of the National Development Council.

In a system of parliamentary democracy, parliament and its committees would have to create opportunities for reviewing formulation and implementation of the plan by the executive. In France, parallel to the parliamentary supervision, is the supervision by Council Economique at Social in which are represented different social and professional categories. A similar organisation at the state level is necessary to involve the local government institution at district and local levels in the process of planning.

(Next issue : The Implementation of Planning)

Port management institute at Madras

AN INDIAN INSTITUTE OF Port Management is being set up at Madras to impart training to middle level and senior level port managerial personnel. The Institute will enable the ports to keep pace with the rapid changes in technology relating to shipping and ports in the world. A major effort is required in building up ports management cadres and providing them specialised training in various fields specially those related to port operations, containerisation, etc.

There are 10 major ports in India, five on the Eastern Coast, namely, Calcutta/Haldia, Paradip, Visakhapatnam, Madras and Tuticorin and five on the Western Coast, namely, Cochin, New Mangalore, Mormugao, Bombay and Kandla. The 11th major port, namely, Nhava Sheva will be constructed near Bombay. There are about 2,800 middle and senior level managerial personnel in all these ports. When the Nhava Sheva Port becomes operational, this number will go up further.

The Institute Board will include representatives from the major ports, Planning Commission, Port User Interests, Shipping Industry, etc. The setting of the Institute will involve an intial capital investment of about Rs. 6 crores and a recurring cost of about Rs. 50 lakhs per annum.

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Oilseeds production touches a new high

PRODUCTION OF OILSEEDS achieved a record level of 128.1 lakh tonnes in 1983-84 as compared to 93.7 lakh tonnes in 1980-81 and 105.5 lakh tonnes in 1982-83. The production of oilseeds in 1981-82 touched the 121.9 lakh tonnes mark.

Oils and fats, apart from forming an essential part of human diet, serve as important raw materials for manufacture of soaps, paints and varnishes, hair oils, lubricants, auxiliaries and pharmaceuticals. Oilcakes and deoiled meals are also used as animal feed and manure. Groundnut and soya bean deoiled meals are sources of high quality protein to both human beings and livestock.

Realising the need for increasing the oilseeds production, the oilseeds development programmes have been revamped by integrating the various schemes and fragmented programmes into a compact National Oilseeds Development Project launched this year. Liberal subsidies for farmers on various critical inputs have also been provided.

A National Oilseeds and Vegetable Oils Development Board was set up in 1983, for achieving proper coordination of all policy and planning matters relating to oilseeds production and vegetable oils. A decision has also been taken to set up a National Institute for providing facilities for testing and training in quality control as well as extension facilities in oilseeds production.

There are good possibilities for increasing the production of oilseeds as the newly developed varieties like JL-24 of groundnut, Pusa Bold and Varuna of rapeseed-mustard, Ankur and Gaurav of soya bean, Morden and BSH 1 of sunflower hold promise. Package of practices and plant protection schedules developed by the research institutions also offer considerable scope for increasing the production.

It has been observed that the area-approach gives a fillip to the production as demonstrated through the special projects for groundnut in Gujarat and soya bean in Madhya Pradesh. This experience is now being extended by organising special projects for four crops, namely, groundnut, rapeseed-mustard, soya bean and sunflower in 12 states.

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c.h. hanumantha rao prof. raj krishna s.k. dey
malcolm s. adiseshiah mohit sen d. bandyopadhyay
bunker roy kamal nayan kabra nana deshmukh
aloysius p. fernandez nitish de bharat dogra j.b. singh
mahasveta devi krishna dev diwan bikram sarkar

The new thinking

"A monitoring machinery will have to be created and strengthened to establish that target groups have in fact received the benefits, assets and items of social consumption that are being provided for them as part of the national effort for significantly reducing poverty levels. Voluntary organisations will have to be associated more closely and actively than hitherto with the programmes for reduction of poverty and with the efforts to make the minimum needs available to the population for improving their quality of life. This will be incorporated as part of the overall strategy for augmenting such programmes meant for the poor, as also as an alternative feed back mechanism for ascertaining whether the target groups have received the benefits meant for them."

—from the Approach Paper to the Seventh Plan

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Our Contributors :

CH Hanumantha Rao—Member, Planning Commission, New Delhi; **Prof. Raj Krishna**—former Member, Planning Commission, New Delhi; **S.K. Dey**—former Union Minister for Community Development and Cooperation, New Delhi, **Malcolm S. Adiseshiah**—Chairman, Madras Institute of Development Studies, Madras; **Banker Roy**—Consultant, Planning Commission, and Director, Social Welfare Research Centre, Tilonia (Rajasthan), **Mohit Sen**—Member, Central Executive Committee, C P.I.; **D. Bandyopadhyay**—Adviser, Planning Commission, New Delhi; **Kamal Nayan Kabra**—Professor of Economics, Indian Institute of Public Administration, New Delhi; **Nana Deshmukh**—Chairman, Deendayal Research Institute, New Delhi; **Bharat Dogra**—free-lance journalist, New Delhi, **Aloysius P. Fernandez**—Executive Director, MYRADA, Bangalore; **Krishna Dev Diwan**—General Secretary, Vaishali Area Small Farmers' Association, Vaishali (Bihar); **Nitish De**—Director, Punjab State Institute of Public Administration, Chandigarh; **J. B Singh**—Executive Director, AFPRO, New Delhi, **Bikram Sarkar**—Joint Secretary, Union Ministry of Home Affairs, New Delhi; and **Mahasveta Devi**—eminent social worker, Calcutta.

Wanted good guys !

GOOD GUYS for doing a good job are hard to find and anyone given any responsibility constantly feels its pinch. Imagine, dear reader, things as they are, how painful this pinch could be for those charged with the intricate and difficult task of tackling poverty! It is a fact of life today and, naturally, at all places of authority, search for good guys keeps going.

The Planning Commission, which obviously, shoulders a heavy job, is now engaged with some such exercise. The problem at hand is to reach aid to the poor in our countryside, as fast as possible, and thus hit the 20-point programme targets. The delivery mechanism, with innumerable leakages the planners believe, lacks the necessary punch which is badly needed now to tackle the problem. And, hence, this operation to locate and finally embrace the good guys, motivated by lofty ideals, to lend a hand to the development bureaucracy for doing a clean, quick job.

The field for this search is voluntary agencies, who, over the years, as the Commission puts it, "have adopted new techniques of having direct interaction with the poverty groups and developed professional expertise for undertaking a large number of rural development programmes as distinguished from the earlier welfare or relief oriented activities"

So far so good, but when YOJANA attempted to elicit further information on the exact nature and number of such agencies as could be entrusted with the new task, the Commission had this to say:

"It is not possible to give any specific reply. Much would depend upon the enthusiasm shown by different voluntary agencies to associate themselves with this difficult task of implementation of some of the household oriented programmes and also on the trust and confidence that they would be able to generate both among the local administration and the beneficiaries. It is a continuing process. However, their credibility on the basis of past performance would be a major factor in choosing them at the initial stages."

The exercise as such would be worth it if we could somehow succeed in roping in, say, at least a dozen of such voluntary bodies in each state to help the cause. But, as we understand, even it may just not be possible. We have it from those who are in the field that an endeavour to identify the really good ones in the entire country to fill the bill, may not, in count, go beyond fingers of two hands, what to speak of a dozen in each state!

If such is the reality then why chase a mirage! It is very true that we have in our midst some really dedicated souls guiding activities of such bodies but things as they are these happen to be by and large one-man shows. Would it then be advisable to expect results from the exercise ? Anyway, as we get along with the process, we suggest due care to ascertain the exact nature of their composition Mysterious, they say, are the ways of the unseen hand that backs them !

As we go about it a distressing thought inflicts the mind Why do we feel shy to face the truth and help sell myths !

And, the truth about the poverty syndrome as revealed by the NSS 26th Round is . . .

Out of 78 4 million rural households, 7.56 million households own no land at all; another 27.61 million households own only tiny holdings much less than an acre in area. Thus, 35.17 million rural households constituting 44.87 per cent of the total rural households own no land at all or much less than an acre

Looking at operational holdings we see that 21.5 million households operate no land and 11.7 million households operate tiny holdings much less than an acre in area. Thus 33 2 million rural households operate no land or much less than an acre of land and they constitute 42 34 per cent of rural households. Whatever way you choose to look at about 42 45 per cent of rural households have no access to any land or have access only to very small areas of land.

And now the viable holdings. Those exceeding two hectares each fall in three categories—semi medium, 2-4 hectares; medium, 4-10 hectares; and others above 10 hectares. The semi-medium holdings number 10.7 million or 15 2 per cent accounting for 18 5 per cent of the area Medium holdings account for 11 2 per cent and about 30 per cent of the area. And the large holdings which number only 3.4 per pent account for as much as 31 per cent of the total area Such, in brief, is the acuteness of our poverty problem.

When such goes life with the poor, should they not then at least expect of our planners a matching strategy to turn the tide !

As it is, the remedy seems to lie in adopting as well the discipline of socialist culture which does not permit all that we see in our midst today—a parallel black money economy, an entrenched rural obligarchy and a corrupt development bureaucracy. Have we not already adopted a Constitution which makes India "Sovereign Socialist Secular Democratic Republic ?"

Then let's work to complete the process. Palliatives remain palliatives, after all !

—Chief Editor

Interview with CH Hanumantha Rao

As the Planning Commission views the concept!

(YOJANA met Prof. CH Hanumantha Rao, Member concerned with the subject to elicit views of the Planning Commission on the new strategy of involving actively voluntary agencies in the implementation of anti-poverty programmes during the Seventh Plan. Here we give the text of the interview)

Chief Editor : There seems to be a sort of new realisation in the Planning Commission on the need of actively involving voluntary agencies in the existing delivery system

How is it that only on the eve of the Seventh Plan closer collaboration with voluntary agencies has been thought of and not so earlier ?

CH Hanumantha Rao: It was not a new realisation. The magnitude, the extent and the intensity of the rural development and the Minimum Needs Programme were so massive that it was felt that any organisation interested in the uplift of the masses should be encouraged to contribute its mite for the proper implementation of these programmes. As early as in October, 1982, the Prime Minister in her letter to the Chief Ministers of the States emphasised the need for widening the role of voluntary agencies for the implementation of 20-Point Programme She also suggested that the State Governments should consider setting up of a consultative group of voluntary agencies under the chairmanship of either the Chief Secretary or the Development Commissioner The Group should have as its members representatives of voluntary agencies which are already working for rural development and have actual presence in the rural scene. Periodic meetings of such groups would give valuable feedback on the actual implementation of the schemes to the Government and help in sorting out poblems affecting the work of voluntary agencies.

The need having been felt to utilise the services of voluntary agencies for the implementation of Plan programmes, it was thought desirable that there should be a dialogue with voluntary agencies on the subject. The Planning Commission organised a meeting on the Role of Voluntary Agencies in the Implementation of Anti-poverty and Minimum Needs Programme in the context of the Seventh Five Year Plan in May, 1984 in which voluntary organisations operating in different fields of activities and areas participated.

Question : Has the Commission done some independent exercise to study the working of voluntary agencies or, alternatively, made use of any such study to reach the decision ?

Answer: For widening the role of voluntary agencies, no formal exercise was undertaken by the Planning Commission recently. The Programme Evalu-

TESTING VOLUNTARY AGENCIES

tion Organisation of the Planning Commission did undertake an evaluation on the role of Voluntary Agencies in Social Work in early seventies. But the voluntary agencies were encouraged to participate in the implementation of Plan programmes particularly in the community development programmes since the Planning process. Thus, the Planning Commission and the voluntary agencies have had a fairly long interface, though no specific role was assigned to or thought of in earlier plans. Incidentally, in the Fifth Five Year Plan there was a scheme of promotion of voluntary schemes and social action programmes with the avowed objective of promoting voluntary action in rural development through encouragement of pilot projects of public cooperation by providing financial assistance to the States and Union Territories and voluntary organisations. The scheme was continued in the Sixth Plan, and it had an allocation of Rs. 175 lakhs.

Question : Should one take it that over the long period voluntary agencies have, qualitatively, acquired status and strength to earn confidence of the authorities ?

Answer : Over the years some of the voluntary agencies themselves have adopted new techniques of having direct interaction with the poverty groups and developed professional expertise for undertaking a large number of rural development programmes as distinguished from the earlier welfare or relief oriented activities.

Question : Has there been any consultations with State Governments over this new move ?

Answer : Yes. In the Chief Ministers' Conference held in April 1983 on the implementation of 20-Point Programme, a paper was circulated in respect of IRDP, NREP, Land Reforms, Minimum Wages for Agricultural Workers, Rehabilitation of Bonded Labour, Development of Scheduled Castes and Tribes, Provision of drinking water in Problem Villages, Construction of House Sites and Welfare of Women and Children. The Paper was considered and adopted in that Conference.

Question : What exactly is the nature and number of voluntary agencies which could be entrusted with this new task ?

Answer : It is not possible to give any specific reply. Much would depend upon the enthusiasm shown by different voluntary agencies to associate themselves with this difficult task of implementation of some of the household oriented programmes and also on the trust and confidence that they would be able to generate both among the local administration and the beneficiaries. It is a continuing process. However, their credibility on the basis of past performance would be a major factor in choosing them at the initial stages.

Question : What precisely is the sphere of activities envisaged for more active involvement of voluntary agencies ?

Answer : A wide variety of activities is being thought of in this respect. In the meeting that took place in the Planning Commission, the voluntary agencies themselves suggested their participation and association in respect of all the anti-poverty and Minimum needs Programmes such as identification and selection of beneficiaries for the IRDP, dissemination of information in respect of specific programmes aimed at benefiting the poor, demonstrations through pilot projects and dissemination of failure and success stories, organising the rural poor to enhance their bargaining strength both vis-a-vis market forces and the vested interests that oppress and exploit them.

Question : How do we propose to choose such voluntary agencies ? Will the State Governments also have a say in the choice ?

Answer . It is basically for the State Governments to make a choice. The Planning Commission has an honorary Consultant on Voluntary Organisation who is also an eminent person in this field. He has been going round different States trying to identify the grass root voluntary organisations actively interested in the implementation of these programmes Lists of such voluntary organisations prepared by him are circulated to the State Governments with a request to form Consultative Groups as suggested by the Prime Minister. The State Governments are free to modify or change the list on the basis of their own information.

Question : Obviously, we now propose to go beyond the concept of grants-in-aid as hitherto. Do we now propose to allocate funds for specific projects ? If so, what about accountability ?

Answer . Obviously, the voluntary organisations chosen for actively participating in the Plan implementation would be those who have already shown their capabilities in implementing such schemes and have earned credence of the beneficiaries and the local administration. They are expected to be socially responsible. However, funds allocated to them would be subject to normal audit procedure Incidentally, quite a large number of such voluntary agencies would be receiving funds through People's Action for Development India (PADI) which is an autonomous organisation sponsored by the Ministry of Rural Development. PADI has a fairly elaborate system of measures to ensure that funds allocated are properly utilised.

Question : Don't you think this new move could create an impression that the state machinery has proved inadequate to the task ?

Answer . Certainly not. It only indicates that the State Governments have become more alive to the situation where supplementary efforts by voluntary agencies might bring about a qualitative change in the implementation process. Moreover, a degree of healthy competition between the bureaucratic machinery and the voluntary agencies might bring about distinct improvement in the Plan performance. As I mentioned earlier, the magnitude of the programme is such that help and collaboration is required from all the sectors including the organisations of the beneficiaries themselves to ensure that there is no leakage and that the programmes are implemented for the benefit of those for whom these are meant. □

It would just be a futile exercise !

YOJANA put to Prof. Raj Krishna the following questions :

1. The Seventh Plan Approach Paper refers to active involvement of voluntary agencies in implementation of anti-poverty programmes. Your comments please.

2. Do you think this new approach of the Planning Commission is going to make any difference in the existing delivery system ?

3. What had been your experience, as Member, Planning Commission, in dealing with voluntary agencies ? Do you believe they are really cut for the new role ?

4. An impression goes that voluntary agencies, in general work under local influences. In the circumstances, do you think that the development assistance would really reach the intended beneficiaries ?

5. One hears of all sorts of foreign interests making inroads into working of voluntary agencies. What could be its implication ?

6. As thinking now goes, voluntary agencies are likely to become an integral part of the existing delivery system. What sort of mechanism, in your view, would be necessary to ensure effective functioning ?

7. There exist today all types of voluntary agencies. Who you think really fill the bill? How could one make the choice ?

8. We have different political parties running government in States. Do you envisage any Centre-State differences on their selection for the purpose ?

We publish below Prof. Raj Krishna's response :

(CHIEF EDITOR)

IN MANY RECENT plan documents, the role of voluntary agencies in promoting rural development has been emphasised. They are supposed to be potentially superior to official agencies in three respects : (1) their workers can be more sincerely devoted to the task of reducing the sufferings of the poor, than government staff; (2) they can have a better rapport with the rural poor than government employees; and (3) since they are not bound by rigid bureaucratic rules and procedures they can operate with greater flexibility, they can readjust their activities quickly and continuously as they learn from experience.

TESTING VOLUNTARY AGENCIES

But the fundamental fact is that the rural development bureaucracy usually does not like the development of autonomous institutions. Therefore, it obstructs the work of most of the voluntary agencies, or brings them under its own tight control by exercising its regulatory legal power and by manipulating the strings attached to governmet finance. Only those few voluntary agencies, which have access to non-official sources of finance, and have built up an independent base of popular support through their good work in the past, can manage to remain autonomous. They have tapped the resources of business houses (such as Mafatlals),or the Gandhian funds or some foreign voluntary organisations, or the Christian churches

The majority of voluntary agencies, depending mainly on government finance, are simply extensions of the government bureaucracy just like a majority of co-operatives.

If they have not been captured by the bureaucracy, they have been captured by the rural oligarchy, the local politicians and|or criminals just like cooperatives. The resources funneled to them by the government are misappropriated by these local "dadas".

The very fact that the government "selects' the voluntary agencies to be supported leads to bureaucretic control or partisan "dada" control

In view of these hard facts of life, the theoretically conceived advantages of the growth of a voluntary sector do not materialise except in a few isolated pockets.

It is easy to state the conditions required for the growth of a genuine voluntary sector: (1) the government should not interfere at all in their choice of activities, use of funds, mode of operation, staffing etc, (2) all departments of government at all levels should give them full support; and (3) the only requirement on the part of the government, as a condition of finance, should be that the supported agencies should submit an annual report, and an audit report by a Chartered Accountant. The government should only have the right to cut off funds in the event of an audit report showing embezzlement of funds.

There will undoubtedly be some misuse of funds in the voluntary sector. But the amount misused is likely to be much smaller in the aggregate than the vast amounts wasted by government agencies.

The conditions for the growth of a large, healthy voluntary sector will not in fact be allowed to be created by the power-hungry and money-hungry bureaucrats and 'dadas'. Therefore, it can be safely predicted that a truly voluntary sector is not likely to emerge and grow in India. The sector would consist of so-called voluntary agencies which are simply agents of local oligarchy and|or the bureaucracy and remains another channel for the misappropriation of funds.

A small number of voluntary agencies which depend on non-governmental funds and are able to retain dedicated workers and mass support simply on the basis of good work in the field may, however, continue to exist □

"The fundamental fact is that the rural development bureaucracy usually does not like the development of autonomous institutions. Therefore, it obstructs the work of most of the voluntary agencies, or brings them under its own tight control by exercising its regulatory legal power and by manipulating the strings attached to government finance. Only those few voluntary agencies, which have access to non-official sources of finance, and have built up an independent base of popular support through their good work in the past, can manage to remain autonomous."

Why don't we learn from the past ?

S.K. Dey

The author, a father figure, who was Union Minister for Community Development and one among the founders of the cooperative movement in the country, narrates here, all in anguish, the doings of the vested interests which led to the weakening of the will to actively involve the people in the process of development. And, he cautions, things as they are, we must learn from our past experience and think twice before deciding to rely on voluntary agencies as agents of change.

KUDOS IS DUE TO "YOJANA" for its plunge into the exploration for help especially to the "have nots", now through voluntary efforts. Before one begins to participate in such a quest, there must be some mention of the background to the observations one wishes to make.

A feudal or a totally capitalistic State can afford no voluntary action except for its own furtherance Voluntary action arises and meaningfully, only where "Power to the People" rules in an honest and refined "democracy " No more adequate definition on this has emerged till now, than what was offered by Abraham Lincoln. According to him, "Democracy meant a Government of the people, by the people, for the people." He had added, "As I would not be a slave, so would I not be a master. This expresses my view of democracy. Whatever differs from this, to the extent of the difference is not democracy." No wonder, President Lincoln's life had to end with the bullet of a hired assassin. Another American of rather recent times, President Kennedy, had suffered a like fate, for according to him, "if a Government cannot help the many who are poor, it cannot save the few who are rich " This paper is based therefore on the premise that can struggle in India since August 15, 1947, was one towards democracy rather than its facade.

Nehru had laid firm emphasis throughout on the pilgrimage together of Samuhik Vikas, Panchayati Raj

TESTING VOLUNTARY AGENCIES

and Sahakari Samaj—the triple pillars on which alone, his concept of democracy could stand and move forward." He was not assassinated. But he had to suffer the prolonged agony of withering away, because of the subtle but massive tirades engineered against him following October 1962, by those he had kept out of power and who could secure their vintage in quick strides only after he was no more.

Some outstanding examples

On this background one may turn attention, first to some outstanding examples of voluntary action in India and abroad. Dr. and Mrs. Spencer Hatch, devout missionaries from America decades back, had centrede their entire attention to a Y.M.C.A. programme for improved poultry and bee-keeping for honey in the Martandam Taluk of erstwhile Trivandrum State. This expanded and spread around, even when the Hatch couple had been gone. Eggs from Martandam continue to travel today to Calcutta, and honey to Delhi. Dr. Leonard Elmhirst from U. K. in conjunction with Tagore, did work on rural reconstruction that made Sriniketan as a pioneering institution. At Comilla, now in Bangladesh, an academy for rural reconstruction was initiated by a Pathan I.C.S. officer during the regime of President Ayub, who preferred his experiment in a taluka as against an offer to be the Administrator for the programme for erstwhile Pakistan as a whole. Comilla Academy and the work of this brilliant pioneer are still alive even though Akhtar Hamid had left Comilla after Bangladesh in 1971. Rural Reconstruction in Bangladesh with programmes for women and children, despite army rule, indeed independently of it, pursues its own steam under two voluntary leaders of Bangladesh who had left their moorings behind in U. K., where they had settled—F. Abed and Dr. Z. U. Choudhury with his English wife.

"A feudal or a totally capitalistic State can afford no voluntary action except for its own furtherance. Voluntary action arises and meaningfully, only where "Power to the People" rules in an honest and refined "democracy"."

Tribhuban Das Patel as a people's leader, but minus Bazar Politics, with Dr. Kurien, the technologist—and administrator, established the Amul cooperative system of dairy, now finding extension beyond Gujarat, which has gone totally cooperative in its dairy sector. It is reflective of a pride not only of India but of Asia as a whole. It need cause no surprise, vested interests throughout, in the Hindi belt in particular, are up in arms against the cooperative system. The entire programme of sugar cooperatives in Maharashtra, now producing more than forty per cent of sugar in India, cooperative spinning mills, ginning mills etc. in Gujarat and many an allied field dealing massively with ground level, arts, crafts, industries etc. draw their nourishment from outstanding cooperative leaders such as Prof. D. R. Gadgil, Prof. D G. Karve, Dr. Vaikunth Bhai Mehta as a galaxy of three cooperative giants now no more. Many others of younger colibre took their cue from the elders from the days of British Times lately in India.

With wax and wicks !

Experiences of Thakkar Bapa and others of like ilk are spread throughout the country with wax and wicks of their own, burning the candles for those that needed light and help. All this, despite resistance from local vested interests thriving on sweated and bond-slave muscle of the low and weak, with support often from officials and slogan-mongering politicians in and along-side Government. A piece of outstanding work in progress under Drs. Rajni Kant and Mabelle Arole at Jamked in Maharashtra on rural health is worth its weight in gold. We may visit Narendrapur in Calcutta and Coimbatore amongst others, doing silent work of training with echo around, under Ramakrishna Mission. Nilokheri, on the National Highway 150 kilometers north of Delhi, with its rural-cum-urban township and the quest therein soon after 1947 for a "road to new India" is another example of voluntary action by many a volunteer totally committed to the cause and supported strongly by Nehru despite opposition from within Government and without. The examples, but a few, cited in the foregoing, are illustrative of what can follow when the 'cause is honest', there is integrity, inspiration and the fire from within. When there is a political will in the government and its leaders to serve, not to grab, the ocean can and does rise. The tidal wave which by nature is indivisible, can flood the land with vim and vigour free of limitations.

One may turn now to experiences rather weird eye openers in the other direction. Soon, after August 15, 1947, the Minister of Planning conceived of the fabulous idea—"The Bharat Sevak Samaj". Covering within its range the totality of India, as a non-official organisation with himself as its chairman. This was followed by the "Bharat Yuvak Samaj". Then came the "Bharat Sadhu Samaj", to round up all the sadhus of India for national reconstruction. Trouble arose as regards whether or not, the head of the Sadhu Samaj was, for travelling and allied purposes, to be treated as a class one government servant. The mountain was set in motion How all these monumental organisations ended, leave many an untold story for India's archives.

"Nehru had laid firm emphasis throughout on the pilgrimage together of Samuhik Vikas, Panchayati Raj and Sahakari Samaj—the triple pillars on which alone—his concept of democracy could stand and move forward."

Doings of Sarva Seva Sangh

Sarva Seva Sangh, a Gandhian Institution after Gandhi, headed by stalwarts, shared the conclusions reached by government, that an enduring future for the growing population in India, lay in giving first priority to agriculture in the comprehensive sense of the term. But, the key to this depended on "land to the tillers". This demanded rapid and effective reforms in land ownership, tenancy and share-cropping. However, land constituted the supreme status symbol that

ield the rural socity to ransom for ages over history. For government to stir it, would be like unwinding a hornet's nest. Like a star from the firmament, descended the Sangh with its "open sesame", key of "Gram Dan", "Tahsil Dan", "Zilla Dan", "Pradesh Dan", and ultimately "Bharat Dan"—a programme India's own. It was to be the marvel of the world—a people's revolution minus a drop of blood being shed anywhere from any side. All hailed the messiah across the land. What emerged out of this "Jiwan Dan" and 'Bharat Dan" is another story.

At Yelwal in Mysore State, a special meeting was arranged with President Rajendra Prasad, Prime Minister Nehru and others from Government of India and the stalwarts of the Sangh sitting along-side Community Development Programme, Panchayati Raj and Sahkari Samaj dearest to Nehru's heart, it was thought, could have a real non-official association to reinforce it, if the programme suggested by the Sangh as a joint one with Government had been agreed upon. Agreement was reached The objective was the ultimate coverage of the country. A decision was taken to have a coordination committee between the two organisations.

It was also decided to have a pilot project under the Sangh in the backward district of Koraput in Orissa, where eight tribal blocks had already been covered by "Gram Dan" to "Block Dan". One of the Blocks was taken under the unfettered charge of the Sangh with full resources, but staff appointed exclusively by them. A year passed. The entire resources had been spent out. All that happened was that the Block Development Officer selected and appointed exclusively by them out of their own youth group, had established an Ashram for himself immesurably better fitted and equipped than Gandhiji's own at Sevagram. Ashram cannot be complete minus a Sewa-Dashi. A vital young Adibashi girl of rare beauty found her place to look after the Ashram and its occupant. An expensive theatre hall also came to add to the beauty of the jungle land. There came also a big store house for jungle produce with hardly 5 per cent of space occupied. When the doings were reported to the Sangh, the young man was removed. The joint programme also came virtually to an end.

'Experiences of Thakkar Bapa and others of like ilk are spread throughout the country with wax and wicks of their own, burning the candles for those that needed light and help. All this, despite resistance from local vested interests thriving on sweated and bond-slave muscle, of the low and weak, with support often from officials and slogan-mongering politicians in and along side Government "

Then came "Bharat Dan"!

Sarva Seva Sangh now started full steam after their concept of "Bharat Dan". The State heads and others in government, continued boosting them with elaborate reception and amenities all round, to help them carry out the revolution on land and life because they naturally craved being spared the trials, tribulation and contradictions involved in land reforms through administrative resources. Meanwhile, Nehru passed away. All the counterforces kept totally at bay by him, raised their heads, virtually over night, to reverse and undo all what he prized.

The first victim

The Ministry of Community Development, Panchayati Raj and Sahkari Samaj touched more than eighty per cent of our population. This was set as the first target for demolition because Nehru had declared and hailed this to be the first ministry of its kind in the world. At the psychological moment, the Sangh including the "Jiwan Danies" perhaps unwittingly and in desperation over their own plight of revolution, found Panchayat Presidents and the Block Development Officer cum Tahsildar in that totally reactionery and corrupt state of Bihar, acting as the main obstacle to the "Shangrilla"—they had aimed at. They shouted for the abolition of the whole programme of community development as well as Panchayati Raj. These fell on sweet and expectant ears. The ministry came to an end before the end of January 1966.

"When there is political will in the government and its leaders to serve, not to grab, the ocean can and does rise. The tidal wave which by nature is indivisible can flood the land with vim and vigour free of limitations."

Politicians hailed the new post-Nehru age in a chorus "community development has totally failed". It is not strange that the ruling parties as well as the opposition shared the common disposition, even though each group for its own reasons. They were not entirely wrong.

Community Development did really fail, and in the most vital economic and social aspect unavoidably and inevitably. The emphasis on agriculture as the highest priority was crucial for Indian self sufficiency in food. The programme necessarily had to be concentrated on the class of bigger land holders—the ruling elite in rural areas. For they alone could take the fastest advantage of the technical and material wherewithal as began to follow the emergence of new technology and practices around the middle sixties on the Indian agricultural horizon. The ground level staff also had a closer material and emotional report with the "haves" rather than the "have-nots". The latter were the marginal and small farmers and the landless-the still dumb and mute in the villages. No wonder, the higher section of rural society and their spokesmen in legislature had to find in community development the scapegoat to save their skin with, against the neglected majority.

Trading on Gandhi's name!

Panchayati Raj and Sahkari Samaj, spreading fast under Nehru, had also begun to threaten the ground where the erstwhile elite ruled and rode the "hunchback" of centuries. The elite had very little to lose or stake in this volte face after Nehru Indeed It acted also as a sop to their conditioned conscience, so typical of Indian culture The Kudal Commission in operation, has been unfolding facts curious and telling on institutions and personalities trading on Gandhi's name throughout, genuine individuals following Gandhi, as exceptions across India notwithstanding.

Recent years have begun to reveal a fast spread of trusts and allied institutions in states, all in the name of the people at their ultimate costs, but vested in power and politics—high and middle—holding these as their special fiefdoms. Non-official not included

"An enduring future for the growing population in India, lay in first priority to agriculture in the comprehensive sense of the term. But, the key to this depended on "land to the tillers". This demanded rapid and effective reforms in land-ownership, tenancy and share-cropping. However, land constituted the supreme status symbol that held the rural society at ransom for ages over history For government to stir it, would be like unwinding a hornet's nest."

as ministers in the states have the public and associated institutions at their command, by and large. Perquisites in cash or kind are claimed to be equivalent to what apply to ministers. All these happen despite the phenomenal rise in emoluments and allowances to those who are elected to determine the destiny of the nation in the Parliament and State Legislatures which are growing to be stock exchanges on politics—totally indigenous. While the system applies as a rule to states run by the party ruling at the Centre, those ruled under the opposition are not very far, even if not as brazen in words and deeds. The process seems to have found acceptance, by now as a special innovation in Indian democracy !

A quiet exit !

Democratic decentralisation of authority, responsibility and resources has virtually ceased to exist Government dare not face the risks of dissolution of the Panchayati Raj institutions Therefore, institutions remain, even multiply, so also the staff in accelerating numbers Resources also flow both from government as well as associated institutions. But life and vitality have had a quiet exit Coordination between nation building agencies at the ground level as well as at Blocks and Districts achieved after years of grinding nerve wrecking efforts and sweat, is a legend of the past Indeed, departments whether agriculture, animal husbandry, education, health or any others have been splintered down to be run vertically, by segmental heads of Divisions in departments.

Block development officers, once the official kingpin of development, function now more for public relations and miscellaneous programmes The wo d "coordination" the prime mover in the Community Development is now a taboo in Block vacabulary.

Panchayati Raj does not exist except in forms, at the village level, in the Hindi belt in particular. Even where this worked once at higher levels with vigour such as Maharashtra and Gujarat, to some extent in Andhra as well as Tamil Nadu it is highly politicized and undermined in their authority and working because of intervention by state government from above through subtle strategies. The All India Panchayat Parishad created by Balwant Rai Mehta and headed later by J. P. and others, is now another secure fiefdom. It stands headed ever since, minus any elections or electorate. The resources established earlier for a "National Institute for Leadership Training on Panchayati Raj" on a valuable seven acres of precious highland granted by a village Panchayat across Jamuna and approved by Delhi Administration and supported with substantial assistance from States, are now shared as an estate for personal support and allowances to social and political parasites.

State authority usurped

Debunking of Panchayati Raj led logically and inevitably to the usurpation of State authority, resources and responsibility by the Centre. The countervailing pressure on the Centre from grass-roots upward had been bartered away for serfdom invisibly yet unequivocally States ruled by opposition to the Party ruling at the Centre are at tender mercies Those ruled by the Party governing at the Centre, have Chief Ministers nominated exclusively by the Centre, alongwith similar nomination of the State heads of the party to maintain a balance ! Unceasing confrontation between the two foci is the normal scene throughout, the Centre whisling through the diarchies created

A visit to the U. K. National Council for Local Government (an autonomous institution) confirmed at the highest level there, that the electorate in U. K recognises—instinctively the imperative need for keeping both the ruling and the opposition parties alive and active as an integral base to the democracy to which the state and the people stand wedded in absolute terms Therefore, the trend there spontaneously, is to elect a majority in the local Government of members belonging to parties opposed to the one that has majority in the Parliament But our ancient feudal culture in India stands in the way of Government whether at Centre or the States offering any room what ever of dignity or of action in any form for the opposition A bird's eye view across the country and events, will reflect the reality of our democracy in India we talk so glibly about

A balancing force !

"Cooperation" had been a people's programme across the democratic world even in British India prior

"Panchayati Raj and Sahakari Samaj, spreading fast under Nehru, had also begun to threaten the ground where the erstwhile elite ruled and rode the "hunchback" of centuries. The elite had very little to lose or stake in this volte face after Nehru. Indeed it acted also as a sop to their conditioned conscience, so typical of Indian culture"

to Independence as indicated briefly earlier. The combined first and last ministry of Community Development, Panchayati Raj and Cooperation had an altogether separate department of cooperation This looked after the totality of cooperation as a balancing force progressively between the Public and the Private Sectors in the economy Based on complete agreement of the cooperative leaders, the subject as a whole was delinked from the Reserve Bank of India which was maintaining a full Department under a Deputy Governor, looking largely after agricultural credit and training. An under—secretary in the Ministry of Agriculture helped the Bank with such government assistance, as the erstwhile sector of coope-

ration in Government was dealing with. A new national cooperative union necessarily of all specialised national subject matter federations came into being. Training both of officials and non-official leadership, evaluation as well as the promotion of Sahakari Samaj as a balancing economic philosophy came as its primary responsibility. More than a dozen national specialised federations also followed soon to spearhead the new movement based on inter-locked elections from the ground up to the national level.

New "Jagirdaris" !

With a clear mandate from Nehru the new ministry succeeded after long and gruelling struggles throughout the country, to eliminate ministers whether from the Centre or the States to get off the shoulders of cooperatives at various levels They held these as their private fiefdom to act as a stand by, while they enjoyed and masquaraded state power alongside. Today the picture is just the opposite Almost all the federations at Centre or in the States are headed by ruling partymen holding seats in Legislatures or the Parliament or offices in Government, in a game of musical chairs. The new style cut at the very roots, the philosophy of cooperation being a people's movement free of partisan politics High level federations were to draw their authority and resources from the next level formations below, as their primary constituents. The principles of Ayub Khan's "basic democracy" instead is at work here today. The higher level federations do their own business through the open marketing system in the private sector, the constituents being treated as fiefdoms from above Almost all of them with some notable exceptions function as new "jagirdaris" to reinforce and uphold the growing new moghul darbar.

What is way out ?

In the light of all that has preceded what can and should be the answer, if there is to be a "down and out" strategy for people to be reinforced by voluntary action free of government and partisan politics ? The answer can only be offered in categorical terms, even if implausible for the present The answer to prostituted democracy is not its abolition, or truncation, but its further and faster expansion. For people alone can be the antidote to subversion of their survival. Therefore, the first prerequisite is "power to the people", as an imperative if India that remains, were not to be splintered politically into shreds as the country had been a thousand and more years back Centre-States relations must first be rationalised so as to concede to the States the autonomy guaranteed by the Constitution. The Centre must act as the federation of the States with the autonomy acceeded to them at the beginning of the Republic. The restoration of autonomy must be made contingent through an amendment duly spelt out, of the devolution of State authority, resources and responsibilities monitored by, a statutory organisation in each State. This should look after the sustenance of the devolution as a "process". Then alone can state's politics grow vertically upwards instead of freebooting downwards aggravating the widening of gaps between the "haves" and the "have nots".

"Recent years have begun to reveal a fast sprawl of trusts and allied institutions in states, all in the name of the people at their ultimate costs, but vested in power and politics—high and middle holding these as their special fiefdoms. Non-officials not included as ministers in the states have the public and associated institutions in their command, by and large."

Coming to voluntary action, voluntary agencies at national, state or levels down, could be asked to do evaluation of programmes, consultation in planning, also to look after training, wherever specialised facilities have been existing to the satisfaction of government. Action Programmes at Unit level on the ground, under or outside the Plan, must invariably be implemented by the people themselves with administrative and technical support from government through public relations or cooperative institutions. There is scope here virtually without limits for local organs of youth, women, farmers, craftsmen and professionals lending their voluntary support and leadership. Association of national or state level voluntary organs in any action programme can only provide for an easy scapegoat or a "Jagirdari" solemnified to share the burden of failure in government or the pelf or privileges flowing from political power centres. People must stear clear off humbug cloaking voluntary action. There are four estates today as guardians of whatever democracy we still claim in India—the executives, legislatures, judiciary and the press. A fifth estate is an imperative. It is "people". Happily for the human race, people are amorphous in character and therefore they cannot be mobilised except through voluntary organs, and of their own. The fifth estate therefore can rightfully be called "voluntary organs of people". This alone can offer a substitute for "Politics of Power" in the form of "voluntary action" involving the cream of the nation in every field which cries to be rid of the virus in the system that has grown malignant, and beyond cure through any other remedy.

Nehru was a "man". One need raise no storm over some minuscule of his human failings inspite of himself. Nehru has been no more, now for more than twenty years. Long live Nehru. We have paid homage enough to him, burying or reversing virtually all he lived and died for, in the field of "man making". "It is the quality of the human beings that makes a nation great". This was his credo in life The nation gave recognition to it by declaring November 14 as the children's day in India. Twenty years are long enough for the animal man to learn some lesson afresh, unless the beast, has overtaken his mind and heart irretrievably. The strategy was a beacon bequeathed by Nehru as a talisman. Voluntary action he had declared, must spring from surges from within. The kisses from government can spell but death to spontaneity. He repeated "the king is afraid of the beggar that begs not" except for a cause that is its own return. □

No good for this big task!

Malcolm S. Adiseshiah

No area of national life and development which requires massive action in terms of human and financial resources is appropriate for voluntary action. But these agencies can stimulate, organise, innovate and deliver certain types of programmes of social nature. In fact, voluntary agencies are equipped only to operate on a limited, demonstrative and pilot basis, says the author.

CAN VOLUNTARY AGENCIES do the job? The job in question is the task of national development, whose goals and objectives, targets and quantities, programmes and projects, are set forth in the plan document—the document on the Sixth Plan which is now in the final stages of execution and the Seventh Plan, for which a clearly agreed Approach Paper has been established.

The answer to the question is No and Yes.

The negative

No, voluntary agencies cannot do the job in certain areas, such as in agricultural development, irrigation, power, mining of coal and minerals, industry, the saving-investment magnitudes and equations, balance of payments flows, capacity utilisation, pricing and money and credit supplies, both because of the macro nationwide actions and decisions involved, which no voluntary agency is equipped to undertake or deal with, and because of financial magnitudes called for. These are obvious areas where voluntary agencies cannot do the job. In other words, no area of national life and development which requires massive action through a nationwide net work and|or large resources, financial and human, is appropriate for voluntary agency action. This means that even in areas of national life, where voluntary agencies can do a job in planning and|or executing and delivering the planned programme, voluntary agencies can operate only on a limited, demonstrative and pilot basis and not cover the whole spatial water front.

The positive

Yes, voluntary agencies can within these limits, do the job of stimulating, organising, innovating and delivering certain types of programmes. The major programme area which is appropriate for action by the voluntary agencies is the programme activities aimed at eradicating poverty, which is the condition of the majority of our people, and which is the priority programme for the Seventh Plan.

TESTING VOLUNTARY AGENCIES

Organising the poor

Within this programme area of poverty eradication, the activity which the voluntary agencies, and only the voluntary agencies, can handle is the organisation of the poor to fight for their rights, and to ensure that the benefits and provisions legislated for them really reach them, and are not appropriated, as they are today by the non-poor. This proposal of the poor organising themselves to fight against the many sided exploitation, discrimination and deprivation to which they are subjected, was first made in the Draft Five Year Plan 1978—83 in the section, on redistributive justice. The proposal has been picked up again, in a rather subdued form by the Approach Paper to the Seventh Plan when it stated: 'In the ultimate analysis, the objective of removal of poverty can be fulfilled in the measure in which the poor themselves become conscious, improve their education and capabilities and become organised and assert themselves.'

"The major programme area which is appropriate for action by the voluntary agencies is the programme activities aimed at eradicating poverty, which is the condition of the majority of our people, and which is the priority programme for the Seventh Plan."

This is the heart of the anti-poverty programme, which requires that the poor should organise themselves and fight to ensure their rights, particularly their legitimate share of the national cake. This, in effect, is a call to break the unjust status quo, to promote revolutionary change in the rural countryside and in the growing urban slums, which, in its very nature, the government and governmental agencies will not be able to undertake. No government anywhere in the world undertakes programmes which undermines a part of its own support base—which is the well-to-do exploiting minority. This basic priority activity of helping the poor to organise themselves can only be done by those non-governmental (non-establishment) voluntary agencies, whose idealogical base is the promotion and attainment of a society of justice and equity.

A number of voluntary agencies—such as the various Gandhian groups working quietly, effectively and silently all over the country, the religious groups, notably the Christian missions, the Ramakrishna Mission aid and other missions—are at work helping the poor, majority of our people, to organise themselves and obtain their rights—whether it be the landless agricultural labourers earning sub-standard wages, the harijan families being subject to many forms of exploitation and discrimination, the bonded labourers whose rehabilitation after their freedom is even more urgent and difficult than their being freed, the women in all strata of society who are treated as unequal partners in our society. The voluntary agencies are working in this crucial area in independent and ad hoc fashion with groups of the various classes of poor people. What they need is not money, because they are not engaged in acts of charity, not in 'do good' programmes, but in the far more difficult and dangerous effort of encouraging the poor to organise themselves and to realise their strength through such organisation. And in this task, they face the organised opposition of the powerful rural and urban oligarchies, the well-to-do classes, who rightly see in such groups, organisations and unions of the poor threat to their position and power.

I have seen the opposition of the landed classes in the villages where my people are working, teaching literacy, income earning skills and creating awareness of their position, which results in a spontaneous desire of the people concerned to organise themselves, and go to the land-owners as a group demanding the legal minimum wages to which they are entitled, in one case; or to parcel out and occupy the surplus land which was parcelled out in benami transactions by the land-owners, in a second case; or to occupy the poromboke (common pasture) land and divide it up among themselves, in a third case.

The opposition of the landed and well-to-do classes, the organised poor and the voluntary agency concerned can deal with and are being dealt with. What tilts the scales against them is when the government machinery and agencies, the BDO, the Tehsildar, district commissioner|collector, the police join in with the land-owners in the villages or the well-to-do person(s) controlling the urban slums, in stopping the work in the name of law and order Thus what is needed to support the voluntary agencies is legislation or an executive order which will recognise and legitimise this movement of the poor to organise themeselves to fight for their rights, and for the governmental agencies to remain at least neutral in the ongoing struggle between the power net works and the organised poor, if not supportive of the cause of justice. In other words, the organisations of poor and their helping voluntary agencies should be recognised as being of the some status as Trade Unions are in the country.

There is one other group of voluntary agencies which is engaged in this task of organising the poor, particularly the rural poor. That group consists of the various political parties, the CPI, CPM, Congress, Lok Dal etc. which are successfully helping in getting the poor to join their party, and on that basis, fighting for ensuring the payment of minimum wages, or registering their claim for a house-site, or ensuring that the distribution of surplus land benefits the landless agricultural labourer. I treat this group somewhat separately, because, unlike the first group of voluntary agencies, this group makes the members of the rural or urban poor, members first of the political party in question.

"The activity which the voluntary agencies, and only the voluntary agencies, can handle is the organisation of the poor to fight for their rights, and to ensure that the benefits and provisions legislated for them really reach them, and are not appropriated, as they are today, by the non-poor."

What role in land reform?

Land reform comprises: (a) real enforcement or real land ceiling and prompt and speedy distribution of surplus land above the ceiling to the landless poor, (b) regulating tenancies in the case of what are called the informal tenants, and (c) the revision and updating

of land records. These, again, which the Approach to the Seventh Plan describes as 'the core of the anti poverty programmes' can be planned only by the government on the basis of parliamentary|state legislation. Because of the legalities and enforcement and sanctions involved, their execution also has to be undertaken by the governmental agencies and officials. Voluntary agencies, have, however, a very important function in highlighting the legislative loopholes built into the land ceilng legislation, through which a whole troop of party functionaries and their friends are able to slip through in assisting the small and marginal farmers in getting their ownership|tenancy rights registered, in helping the informal tenants getting their tenancies regularised in the village records and by the tehsildar, and above all in identifying benami transfers of surplus lands, publishing such violation of the ceiling law in the village and block, with the names of the land owners involved and other details of the violators being made public This function only the uncommitted and freely operating voluntary agency can perform as the repeated studies undertaken by official and research institutions show.

Studies of village of Iruvelpattu, for example, initiated in 1916 (by Gilbert Slater) identified 80 per cent of the village land comprising 350 out of 456 acres belonged to one person—the major land lord of the village ; a second study of the same village in 1936 (by A. K. Veeraraghavan) found the same person owing 354.10 acres of the village land : a third study of the village undertaken in 1961 (by M. R. Haswell) found the descendent of that land lord in possession of 307 standard acres of the land—despite the fact that under the land ceiling law he should have held only 30 standard acres : and a fourth study (by S. Guhan and Kathleen Gough in 1982) found the same person in effective control over 250 acres of land

Similar surveys of other villages and hamlets in different states and particularly in the green revolution areas report that land concentration continues in the hands of the same families in violation of all land

"The poor should organise themselves and fight to ensure their rights, particularly their legitimate share of the national cake. This, in effect, is a call to break the unjust status quo, to promote revolutionary change in the rural country side and in the growing urban slums."

ceiling laws, and in many cases the leading members of the families concerned are office bearers and members of the High Command of political parties, which ensures that the enacted legislation is full of many escape routes, making the ceiling legislation unforceable. In these circumstances the voluntary agencies have a function of over seeing the implementation (and violation under various garbs) of the ceiling legislation, and of contributing to their effective and real execution within these limits.

How has IRDP fared ?

The employment objective of national development merges directly with the assets generating objective in Intergrated Rural Development Programme (IRDP). IRDP has been conceived as a programme which provides a poor family-originally the poorest among the poor families-with some income earning assets such as cattle, poultry, a handloom or other artisan tools with necessary back up facilities as a means of augmenting the income of the family on a sustained basis. This programme is failing on two counts.

According to the evaluation of the programme by the Programme Evaluation Organisation (PEO) cited in the Mid Term Appraisal of the Planning Commission, the benefits of the programme are being diverted to the non-poor and relatively rich families who have the power and status in the village to do it According to studies made by some research institutions and even some official agencies, only 10 per cent of the Rs. 500 crores funds allocated to the programme in the 3 years 1980-81 to 1982-83, actually reached the poor families for whom it was intended. The rest is lost on the way from Delhi to the village through various corrupt practices, unauthorised payments and political extortions

"No government anywhere in the world undertakes programmes which undermines a part of its own support base—which is the well to do exploiting minority. This basic priority activity of helping the poor to organise themselves can only be done by those non-governmental (non-establishment) voluntary agencies."

A survey of the programme in the Mirzapur district in UP reports that the entire exercise was reduced to a money making game where the funds are divided between intermediaries and government officials, with a trickle reaching the beneficiaries. A similar study of the programme in Alleppey district shows misutilisation of funds|assets such as cross bred milch cattle becoming a liability to the poor family, resulting in its sale or slaughter. Under these conditions, voluntary agencies can help in monitoring the execution by government functionaries if the IRDP programme to ensure that the benefits reach the beneficiary for whom they are intended to the maximum extent possible (60, 70 or 80 per cent in place of the present 10 per cent), or even more effectively, the agencies can be used to deliver the appropriate asset to the poorest families, (the poor over worked BDO, to fill in his target, invariably enters 'buffalo in the IRDP form under the column 'asset needed') and help them follow up the initial delivery, with efforts at sustained improvements, so that the families can be pulled up above the poverty line level on a permanent basis.

One the other, regarding employment generation programmes such as National Rural Employment Programme (NREP) and Rural Landless Employment Guarantee Programme (RLEGP), there are serious lacks and slackness to which the Annual Reports of the Ministry of Rural Development calls attention. First, there is the problem of the declining rate of employment generation set forth in the report. The employment created was 413 million mandays in 1980-81 345 million mandays in 1981-82, 350 million mandays in 1982-83, and 300 million mandays in 1983-84.

Second, there is the lack of use of part of the allocation of cash and food grains allocated to the state government for the programme as reported by them, which was Rs. 300 crores and 3.4 lakh tonnes of food grains in 1982-83, against which only Rs. 200 crores and 3 lakh tonnes of food grains, and Rs. 538 crores and 4 lakh tonnes in 1983-84 against which only Rs. 394 crores and 1.45 lakh tonnes were used. This shows the lack of interest in the programme or the distance from the beneficiary in the villages at the level of the states.

Third, the ministry reports the lack of coordination between NREP and IRDP in the generation and maintenance of rural assets. It reprots that even the Rs. 105 crores allocated to the states in 1980-81 to make their assets durable have still not been accounted for as at December, 1983.

"What they need is not money, because they are not engaged in acts of charity, not in 'do good' programmes, but in the far more difficult and dangerous effort of encouraging the poor to organise themselves and to realise their strength through such organisation."

Finally, the December 1983 report of the Public Accounts Committee calls attention to the sloppiness of the ministry in running the programme as seen in its giving the committee one set of figures on the basis of which it had concluded that there was a short fall of 34.5 per cent in employment generation during 3 years, and giving a completely different set of figures to parliament in the performance budget of the generation of 141.17 crores of mandays of additional employment. This gives the impression that the ministry does not know much about the programme planned and funded by it and state government and executed by its officers at the village and block level.

Here again voluntary agencies could be used to plan the programme on the basis of real local needs and resources at the village and block level and be entrusted with executing the programme. This will ensure that the Plan corresponds to the potential of the unemployed and underemployed in the village, and the programme is executed in light of the susceptibilities of the local poor. Thus, for instance, the Dantwallah working group on block level planning calls attention to the fact that at the village level, the unemployed or underemployed perfer to remain so, if employment is offered to them in locations far away from their houses. This is the kind of situation which a voluntary agency takes into account in both planning employment programmes, and executing them in the village (s) concerned. There are similar gaps in Training of Rural Youth for Self-employment (TRYSEM) and will face the recently started RLEGP, which the use of voluntary agencies can help to set right, to an extent.

Active in social sector

There are a set of 4 additional programmes which form part of the minimum needs programme in which voluntary agencies are active and where their involvement needs to be further expanded. In the field of Health and Family Planning, the promotion of primary health care, involving quality improvement of health services and their extension, and the reduction of the population growth rate from the current 2.1 per cent as reported by the Registrar General to a rate nearer 1 per cent requires what the Approach Paper calls 'imaginative and innovative strategies' and making the population control movement part of the socio-economic measures of rising living standards, increased agricultural and industrial production, acceptance of the two child norm and raising the status of women and the age of their marriage as part of the overall programme of women and development, in which the Approach Paper suggests that home science and girls colleges be used, and above all a wide spread programme of education. This is one area where the Approach Paper specifically calls for the ever greater involvement of voluntary agencies, repeated later as involving 'identification and active involvement of non-governmental organisations, of informal leaders in the community and the imparting to them of the necessary training to motivate them to participate in the programme.' Here voluntary agencies have a very impressive record in planning and delivering the goods in the health and family planning field.

For want of space, I shall just call attention to the work of UPASI among South Indian plantation labour families, the Vadu rural health project in the district run by KEM hospital, the FPAI's work at the Malur Primary Health Centre, the Working Women's Forum's work among the slum women in the Madras metropolitan area, the Varanasi Community project on social marketing along the Ganges, the unique Jamkhed Rural Health project of Rajnikant and Mabel Arole, the Gandhigram work in Athoor in Tamil Nadu, and the Howrah Humanity Association's project on oral contraceptives as a few examples of the innumerable voluntary agencies dedicated to planning health and family welfare projects of a quality which no official agency can attain.

Similarly in the area of Adult literacy, the Union Ministry of Education and the State governments have mobilised over 1000 voluntary agencies who are working along side of some 8 lakh adult illiterate poor (particularly the scheduled castes and scheduled tribes and women) who are the poorest groups among the poor, opening the gates of knowledge, income earning skills and awareness to them. Here the voluntary agencies are only working among a small part of the poor in most states. In my state Tamil Nadu, 50 voluntary agencies are working among the 20 per cent of adult illiterates, while the government programmes cover 80 per cent of them. The voluntary agencies in their limited effort are able to experiment with new methods of learning, which the government apparatus quickly learns from, and

"They face the organised opposition of the powerful rural and urban oligarchies, the well to do classes, who rightly see in such groups, organisations and unions of the poor a threat to their position and power."

adopts, for their mass action programme. Further in some cases the voluntary agencies are using the literacy programmes to help the illiterate poor organise themselves and fight for minimum wages, or land or clean drinking water facility or other benefits to which they are entitled—which the larger government programmes cannot undertake.

"What is needed to support the voluntary agencies is legislation or an executive order which will recognise and legitimise this movement of the poor to organise themselves to fight for their rights, and for the governmental agencies to remain at least neutral in the on-going struggle between the power net works and the organised poor, if not supportive of the cause of justice."

The same type of involvement of voluntary agencies in the Integrated Child Development Programme and the nutrition programme is ensured by the union ministry of Social Welfare and the State Social Welfare boards. Here the voluntary agencies are able to ensure the decentralised planning of the programmes which can take account of the local realities of the mother and child, and in areas where they are allowed to execute the programme, ensure that the delivery is in the interests of the child and the pregnant and lactating mother. Here the approach paper is specific in making the voluntary agencies responsible for doing the job, when it states : "voluntary organisations will have to be encouraged and fully utilised in taking the programme to the masses.

Their limitations

In thus doing the development job, the voluntary agencies have and face certain limitations. First, none of them has a nation wide outreach or net work reaching out to every state and union territory and certainly not to every district, block or village panchayat in the country. This means that the voluntary agency coverage will always and only remain partial spatially. Second, the numbers of voluntary agencies which are sited in the rural area where the major job has to be done is even further limited. A study of the comprehensive list of voluntary agencies maintained by the Union Ministry of Social Welfare and the Union Welfare and the Union Welfare Board shows that most of them are headquartered in urban locales and go out to work in the cities—which brings in an appearance of 'Good Samaritan' like charity to their work in rural areas. Third, the number of committed and trained specialists and workers to the few rural based agencies is very limited, which in turn constrains their operations. Fourth, there is the turn question of mutual distrust which has developed between the governmental ministries and agencies on the one hand and voluntary agencies on the other, for which both sides are responsible, which makes the needed joint planning and delivery of goods and services impossible. Except for the social welfare ministry, and more recently the family welfare division of the health ministry and the adult literacy division of the education ministry the government and its departments, both at the Union and State levels regard voluntary agencies as unwelcome intruders into their terrain, and quite often join with the dominant political party in the state in obstructing the work of the voluntary agency. The voluntary agencies on their side distrust the government's-motives, despite its bureaucratic red tapism methods and despair at the lack of expertise on the government side in delivering the programme to the village families. Finally, and related, the voluntary agencies lack financial resources, and resent the controls which accompany funds made available to them by the government, and equally find difficult raising funds from the business community which insists on the tax exempt status of such funds, which status is then widely misused.

Then what ?

In this situation, a lead needs to be taken by the ministries which have a tradition or have started on this mutual and enriching relations with voluntary agencies led by the ministries of Social Welfare, Health and Family Welfare and Education (Adult Literacy) under the leadership of the Planning Commission in bringing the other programmes and ministries, particularly those dealing the anti-poverty package of programmes refered to earlier, into this area of voluntary agencies action. Carefully and selectively planned, on a demonstration and pilot basis, the voluntary agencies can bring both to programme planning and the delivery, their special strengths, of the knowledge of local resources needs and potential, innovative methods of programme delivery, dedicated, corruption free service, and a high level of expertise. Their action will always be on a limited pilot basis, which will provide an adequate base and powerful instrument to the nation or state wide government programmes. There is no other alternative to this government—voluntary agency partnership for the crusade against poverty, that we will be launching afresh in the Seventh Plan. ☐

"Voluntary agencies, have, however, a very important function in highlighting the legislative loopholes built into the land ceiling legislation, through which a whole troop of party functionaries and their friends are able to slip through in assisting the small and marginal farmers in getting their ownership tenancy rights registered."

"The voluntary agencies lack financial resources, and resent the controls which accompany funds made available to them by the government, and equally find difficult raising funds from the business community which insists on the tax exempt status of such funds, which status is then widely misused."

We wouldn't need them if government could do the job!

Bunker Roy

The author, an ardent champion of voluntarism, explains, with quite concern, all that goes about in the realm of voluntary agencies, which, he regrets, are today no better or efficient than government agencies doing the job. However, he maintains, "in final analysis" voluntary agencies are slowly heading in the right direction and, in the circumstances, do have an important role for alleviating poverty.

AT THE RISK OF being misunderstood may I start by saying that if the government and the vast delivery system at their disposal was in a position to provide basic technical socio-economic services to the rural poor effectively, to respond to the felt needs of the community in time and to practise what they preach on equality, social justice and removing economic disparities then there would be no need for voluntary agencies. Which is not to say that voluntary agencies today are in any better or more efficient shape to perform all these functions with a greater degree of confidence. There are of course many reasons why voluntary agencies are presently incapable of making a significant dent or contribution (call it what you will) in the development of the rural areas.

The grim scenario !

By far the most obvious and indeed the most damaging reason has been the number of functions we have allowed the government to perform for us in the voluntary sector. To name just a few, we have allowed the government to plan schemes and programmes for voluntary agencies : we have allowed the government to dictate terms, call the shorts and make beggars out of us all with a take it or leave it attitude to funding as if they are doing us a favour: we have allowed the government to believe that they alone have the knowledge, the skills and the experience to develop rural areas and we are content playing second fiddle : we have agreed to abide by their terms and conditions of accountability which they rigidly impose on their own departments as if voluntary agencies are just another wing of government: we have allowed the government to think for us and

TESTING VOLUNTARY AGENCIES

act for us and make us believe what development is. We have ceased to think on all these issues independently. And yet we still claim to be flexible in our approach.

We still claim to be in a position to take up causes, show initiative and daring and produce better calibre people. We are supposedly more dedicated than others; we are supposed to be able to live under more rigorous conditions, survive more simply and set an example. But at the same time we hear of voluntary agencies paying comfortable salaries, hankering for security

"It's a strange world this and the rat race in the voluntary sector is as unethical and as severe as any where *dedication and sacrifice notwithstanding* new ideas, new approaches and new methods are not welcome.

and perks, living in style and opting for security and basing themselves in metropolitan cities working (but of course) for the rural poor. These very people would give their left arm to be recognised, appreciated and given importance to by government but if there is any effort to establish a working relationship with government without their involvement, support or guidance, immediately the response is, 'we will lose our independence and autonomy', 'we are selling ourselves to government', 'there will be interference and harassment from government if we get closer to them', 'we will lose our identity and get coopted' etc.

The strange world !

It's a strange world this and the rat race in the voluntary sector is as unethical and as severe as any where dedication and sacrifice notwithstanding new ideas, new approaches and new methods are not welcome. So within the voluntary sector professionalism is a dirty word because it is new and smacks of commercialism: group action and pressure groups are frowned upon as if this is corrupting voluntarism. The move against one-man shows in the voluntary sector is taken to be a move against stalwarts and decentralisation should only be talked about and not taken seriously. The growing resentment that the Elders in the voluntary sector are setting such a poor moral and ethical example for the younger generation to follow is considered impertinent and showing disrespect. Indeed the Elders have much to answer for. What have they done in the last three decades ?

They have gone to town in developing infrastructures in the name of voluntary agencies and left us in the end with the Central Social Welfare Board and the National Institute of Public Cooperation and Child Development. Both are more government than voluntary: both are funding agencies with strict government rules and regulations completely impotent to change from within or plan for themselves or keep the interests of the voluntary agencies in the field at heart. Instead of influencing government policy, instead of fighting for voluntarism tooth and nail, instead of giving institutional support to small grass root organisations facing numerous problems in the field, instead of providing a forum for groups to come together and get confidence from meeting each other they have become isolated empires. They could well be serving vital functions to traditional types of voluntary agencies oriented towards charity and rehabilitation and social welfare as we know it in the conventional sense but it is totally unsuitable for rural development strategies and programmes. In the absence of an impartial lobby at the government level pressure groups on ideological and religious lines emerged to fill the gap and speak for smaller groups. In spite of their vast differences they had one thing in common: they kept away from government.

All that happened !

In retrospect this was hardly wise because it led to government planning for voluntary agencies but that was the least of all the problems. It led to a widening of the communication gap. The genuine and the committed stayed away : the mediocre thrived and used it as a stepping stone to politics This led to suspicion, mutual hostility and indifference. Voluntary agencies were guilty until they proved their innocence. On both sides no one tried-to heal wounds. With the result from the First Five Year Plan when voluntary agencies (rather one agency representing voluntary effort) had much to say on the contribution of non-governmental effort and peoples *participation*; by the Sixth Plan voluntary agencies figured nowhere. They rated a line here and a paragraph there in passing and this was as far as any bureaucrat was prepared to go. And the prominent representatives in the voluntary sector were prepared to accept it as it is They allowed voluntarism to be the first casualty and misconceptions to remain By now they could have professionalised voluntarism : instead they politicsed it. They could have clarified that there is more to voluntary agencies than social welfare, charity and rehabilitation work:instead they confused it by keeping silent. They could have prevailed on powers that be over the last three decades on how to identify voluntary agencies, the types that exist and the specific roles that they can play: instead

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they let the government do it for them. They could have challenged the government and shown them how *it is possible to do a more inexpensive, simple and* effective job with the funds available from government, set an example and earned some respect; instead they allowed their personal hang-ups to show and insisted government money was tainted money—as if foreign funds were more (or less) clean. They could have become crusaders, conscience keepers, promoters of new ideas, defenders of the voluntary faith: instead we see personality cults, conservatism, security conscious, status quo types, each prepared in a non-violent way to stab you in the back.

And the brighter side!

Having said this and given a grim scenario of the state of voluntary effort in this country let us see the brighter side. Evidently, modesty and a low profile has paid off to some extent. Pressure groups and grass root organisations on ideological and religious lines have obviously attracted the attention of government and quiet lessons have been learnt. For the first time without having been promoted or pushed or prodded any number of senior bureaucrats have started saying in different forums that government alone cannot reach the poor. They alone do not have all the answers. They concede there are alternatives, different methods, approaches and systems for the development of the poor which in a free and democratic society must find expression in the total planning process. The promotion and growth of voluntary agencies is one such expression which government must duly recognise and respect.

Even before we ask ourselves the question, 'Can Voluntary Agencies do the job?' We must find out what jobs they are supposed to do. We are not in the business of taking over the functions of government and where voluntary agencies are presuming to do so technically, they cease to be voluntary agencies. Perhaps the time has come to ask this critical question as well, 'when does a voluntary agency cease to be a voluntary agency?' Of course this does not mean that there should not be duplication. At the village and block level voluntary agencies must supplement government effort but this does not mean being dictated to on strategies, policies and methods If government policy is to provide drinking water free but the voluntary agency believes this policy to be incorrect and charges a nominal sum which the community is in position o pay this is a different approach. It is supplementing a service provided by government. It is also duplication from which there are unavoidable lessons to be learnt by the community, the users themselves– and that is why duplication is so important. The lessons are (i) the users are no longer 'beneficiaries' but 'consumers' who now have choices: they can take it free or pay for it. More often than not they world rather pay for it; (ii) It is no longer monopolistic but in keeping with government policy of promoting a private as well as a public sector : think of the voluntary agency as a private sector at the village level without a profit motive, (iii) it is an exercise in building confidence and self respect and it self-reliance. They are fiercely possessive about the hand pump they paid for and they look after it. The government hand pump is free, so it is useless.

"For the first time without having been prompted or pushed or prodded any number of senior bureaucrats have started saying in different forums that government alone cannot reach the poor. They alone do not have all the answer.

Many things to do!

The jobs the voluntary agencies can do are indeed many. To use an extract from the Working Group Seventh Plan Report of the Ministry of Home Affairs on Scheduled Castes, the role of voluntary agencies could be :

1. To set an example on the field of flexibility, initiative, low cost techniques, simple and effective methods and the ability to improvise;
2. To supplement government effort without compromising on strategies, policies and methods of reaching the rural poor;
3. To be the eyes and ears of the people—give reliable feedback and reach the voice of the people to the planners and policy makers;
4. To activate the system to move and respond to the felt needs of the people. To ensure that legislation like the Minimum Wages Act, the Abolition of Bonded Labour Act, the Protection of Civil Rights Act are being adhered to;
5. To disseminate information. Knowledge and information at the village level is power and this power should be distributed to as many people as possible so that it is not used as patronage;
6. To show how local resources could be used for self-development—to remove gross under-utilisation of human and other resources in the villages. The voluntary agencies should 'demystify' technology and the development process of developing people;
7. To train a cadre of grass root village workers—with induction of professional expertise and scientific knowledge so that the rural poor can depend on themselves and not depend on intermediaries;
8. To mobilise financial resources from the community and promote self-reliance;
9. To mobilise and organise the poor so that by applying pressure the quality of the service and the attitude of the government functionary could improve; and
10. To work for social justice and remove economic, cultural and caste inequalities in rural and urban areas.

"Even before we ask ouselves the question 'Can Voluntary Agencies do the job?' We must find out what jobs they are supposed to do. We are not in the business of taking over the functions of government and where voluntary agencies are presuming to do so, technically, they cease to be voluntary agencies."

But what are we doing?

How many of us can say we are performing these jobs or are even capable of doing so? These are the jobs we should be doing, these are the roles we should be playing but how many of the voluntary agencies, when the crunch comes, are prepared to take a stand? If need be how many are prepared to have a showdown with vested interests in the area

they are working in? How many are prepared to be looked on with suspicion because they are working in sensitive areas, be called, by government standards, dirty names like Naxalite, radical, CIA agents and the like. In this political parties are not far behind. With such formidable adversaries it is not surprising voluntary agencies would go to any limits to be accepted in the corridors of power.

"Perhaps the time has come to ask this critical question as well—when does a voluntary agency cease to be a voluntary agency? Of course, this does not mean that there should not be duplication. At the village and block level voluntary agencies must supplement government effort but this does not mean being dictated to on strategies, policies and methods."

Very few bureaucrats can take independent decisions on their own, even less have a mind of their own. For their own safety's sake they would rather go by the opinion of the grass root workers of the government, in this case the patwari, the thanedar, the tehsildar and his colleagues. Naturally, if a voluntary agnecy is doing the job it should be doing, it is not going to win any popularity contest with the sub-divisional official unless they are unusual so the reports are bound to be unfavourable. The average bureaucrat would form an opinion on the basis of what is written on the file. So voluntary agencies working in the sensitive areas of minimum wages, release and rehabilitation of bonded labour, development of scheduled castes and scheduled tribes, provision of drinking water, improving fair price shops and in the consumer movement are not likely to find support from lower government functionaries. This is evident from the selection of voluntary agencies who are represented on the State Level Consultative Groups of Voluntary Agencies by the State Governments themselves. The advice of the Planning Commission has been heard in very few cases in spite of clear guidelines on what the Planning Commission classifies as a voluntary agency. The criteria for the voluntary agency working in the field of rural development to be identified as one is :—

(a) It must be a registered society under the Registration of Societies Act 1860 or equivalent enactment of States ;

(b) It must be based in rural area and worked there for at least 4 to 5 years;

(c) It must have professional and managerial expertise to produce regular audit statements and reports for funds received from Government ;

(d) It must not be linked directly or indirectly to any political party and anyone holding public office through a process of election is not qualified to represent voluntary agencies ;

(e) It is explicitly connected to secularism, socialism and domocracy; it must declare it will adopt only legal and non-violent means for rural development purposes ;

(f) It must implement anti-poverty, minimum needs and socio-economic development programmes designed to raise awareness levels of families living below the poverty line and leading to an improvement in the quality of their lives.

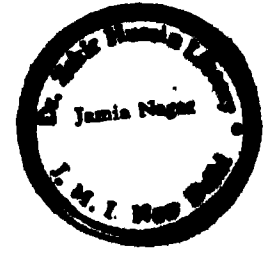
While this has been accepted by many State Governments when it comes to actually implementing it they play safe and choose those which are relatively harmless. Those which threaten to give more importance to law than order, those which are prone to asking trickly sensitive questions, those not amendable to pressures are generally avoided and kept at a distance.

Better understanding now

In spite of the general climate not being conducive to the growth of voluntary agencies there seems to be a growing understanding of the importance of mobilising voluntary agencies as an alternative to the government approach. There is little doubt voluntary agencies can do the job provided they take the initiative to clarify their own stand to help government understand their role. Government by trial or error, by accident or design is convinced that development is only possible if communities are totally dependent on the system : voluntary agencies, on the contrary are working towards making communities independent and this requires a totally different approach. This approach can only be explained by voluntary agencies and since there are many examples of this approach yielding results government must sit up and listen and take notice. There are lessons to be learnt in how voluntary agencies have de-mystified technology ; how they have managed to de-link educational qualifications with experience, responsibilities, intelligence aptitude and competence; how organisations have grown without becoming institutions, how they have used the system without succumbing to it and losing their identity : how they have spread their radical ideas and made them acceptable to government to try them out on a larger scale; how within an organisation it has been possible to decentralise, to delegate and hand over to the people in the area. To be sure all these lessons need to be documented by voluntary and for voluntary agencies.

In the final analysis I like to think voluntary agencies are slowly heading in the right direction. With the exception of a few we are prepared to meet

"How many of us can say we are performing these jobs or are even capable of doing so? These are the jobs we should be doing, these are the roles we should be playing but how many of the voluntary agencies, when the crunch comes, are prepared to take a stand?"

with the government half way—on our terms. Even if we agree to disagree there is no reason why we cannot do so across a table regularly. There is much to learn from each other but first we must both agree we have something to say to each other. The first step has been taken. I have a poster up in my office in Tilonia which contains a message to all voluntary agencies, 'TRAVELLER, THERE IS NO PATH. PATHS ARE MADE BY WALKING'. ☐

No, no, nothing doing with them!

Mohit Sen

Alleviating poverty in the country is a serious business and, things as they are, assigning any role to voluntary agencies in this endeavour is to take a casual or even careless attitude to the Plan and its implementation, asserts the author. And adds, "there is very little, indeed, that is obligatory about the Plan. Unlike in socialist countries the Plan is not law. Non-fulfilment of the Plan is not equivalent to law breaking and there is no provision for penal or any other punishment. In other words, our Plans are already sufficiently voluntary in character'.

IT IS WRONG and even harmful to rely on voluntary agencies even partially for the implementation of Plan projects, especially directed at the poor millions. The approach of depending to a greater or lesser extent on voluntary agencies is to take a casual or even careless attitude to the Plan and its implementation. The Plan is, above all, the most important form of intervention, guidance and transformation of our socio-economic system by the State or the Government which at most points of time broadly coincides with it. The Plan is very much official business or, rather, should be. Its implementation, especially on such an important matter as the alleviation of mass poverty has to be overwhelmingly the concern and effort of the state, the Government and its agencies.

The trouble is!

The trouble with India's Plans is, above all, that they are not taken really seriously by the state and the Government. This is reflected, to begin with, in the manner in which it is drawn up and adopted. The Planning Commission does take a great deal of trouble in this regard. It certainly possesses a reasonable amount of knowledge and expertise. The Ministries have their role, particularly the Finance Ministry. Chief Ministers are also brought into the picture in the National Development Council. But what gets largely left out are the units of production, the points of production and the associated producers. This brings unreality and task of concerete seriousness to the very centre of the stage.

And after the Plan has been drawn up in a more or less final shape it is presented to Parliament for the most desultory of examinations. It is altogether a crying shame and a most revealing commentary on the relevance and value of planning in India that while there is a long budget session of Parliament, the Plan is dispensed with in a day or even half a day when quorum is often not possible. Thereafter, the Plan does come in again for desultory review annually or during the period of "midterm appraisal". Otherwise, it is left to the tender mercies of budgetary allocations and sometimes sharp horsetrading between Chief Ministers and the Planning Commission.

The plan is not law!

There is very little, indeed, that is obligatory about the Plan. Unlike in socialist countries the Plan is not law. Nonfulfilment of the Plan is not equivalent to law breaking and there is no provision for penal or any other punishment. In other words, our Plans are already sufficiently voluntary in character !

What I would call the non-democratic character of its drawing up and adoption, to put it no more

TESTING VOLUNTARY AGENCIES

strongly, cannot be changed nor corrected by attempting to involve voluntary agencies in some vital aspects of its implementation. In other words, the Plan adoption and implementation process does need, in my view, to be democratised but certainly not made still more voluntary. Democracy and spontaneity of work processes are not coterminous. Now is it correct to hold that state and party institutions are necessarily non-democratic and bureaucratic and authoritarian ?

The further question arises as to what is the character and purpose of many of the voluntary agencies, particularly those said to be working among India's poor. Leave aside those who are the agencies of the much ridiculed but very menacingly real "foreign hand", a large number of the others have an approach to the poor which militates against the latter's advance.

This wrong approach!

I would say that this wrong approach is made up of three basic elements.

First

It views poverty in isolation from national-economic development and social change to say nothing of radical socio-economic transformation. The adherents of this approach believe that the poverty question is separate from the property problems.

Second

At best many of these voluntary organisations have charity at the centre of their outlook. Charity is a necessary and estimable virtue in private relations but it is a dangerous commodity in social transactions. Steran weig had so many years ago and so passionately warned us to beware of pity in individual connections. One must even more beware of charity when one approaches the poor in their poverty. Compassion and sympathy are in place because these go together with anger, respect and confidence but not charity. Even at the risk of being dubbed as uncharitable I would say that for many of these voluntary organisations the poor objects whose disappearance would rob them of their raison d'etre. The poor, for them, are not only always with us but should always be with us ! Without retracting from the thrust of what has been said above, I would, however, insist on going on record that many of those who work in these voluntary organisations are noble souls and that they do bring relief to very many individuals who are often neglected by everybody else. But individual virtues do not necessarily lead to social good.

"The Plan is very much official business or, rather, should be. Its implemantation, especially on such an important matter as the alleviation of mass poverty has to be over-whelmingly the concern and effort of the state, the government ano its agencies."

And third

There is in the approach of many of these voluntary agencies and of many of those who head or guide them an attitude of disdain and condescension towards the governmental and other political agencies. Heaven knows there is so much that is so terribly wrong about governmental and other political agencies. But are all or even the majority of the voluntary agencies much better, including those with illustrious founders and prestigious foreign addresses ! Are they all free from stain ? Are they immune from the general dilemmas, from the strains of opportunity which to be realised require opportunism and worse, from the pressures of the success ethos, which both push on and afflict what are called the middle classes, from which most of them spring ? Besides, one of the main forms of the neo-colonialist offensive against our country is the denigration of our political processes, parties and personalities. It is an important aspect of the general neo-colonialist or neo-imperialist campaign for the national demoralisation of our countrymen and pulling down of the international prestige of our country. The present time has been chosen precisely because the contradictions of our independent capitalist development have begun bursting now here and now there. And this explosive situation form a conjuncture with the grave international responsibility of the chairperson of the nonaligned movement as well as the very real possibility of India becoming a great Asian and world power.

"It is altogether a crying shame and a most revealing commentary on the relevance and value of Planning in India that while there is a long budget session of parliament, the Plan is dispensed with in a day or even half a day when quorum is often not possible."

The way out is!

While voluntary agencies, in my opinion, can play a very minimal role in involving the masses of the poor in Plan implementation schemes, this does not mean that no strenuous, sustained and even non-official efforts have to be made to secure such mass involvement. It is the poor who must themselves shake off their poverty and one of the instruments they must use is the Plan and other governmental schemes. In this the crucial role has to be played by the ruling party and other parties who have some roots in the places where the poor live and work. The functions of the government and the ruling party have to be kept distinct. It is of the utmost importtance not only to avoid overlapping but even more interference with a discrimination in favour of the ruling party. Once this begins to happen on a significant scale the ruling party, surely, loses its indispensable, hegemonic function. And such opposition parties that immitate it also lose both their credibility

and the possibility of being regarded as a true alternative. Nevertheless, there is no other way than the government seeking and the political parties, forces and personalities offering their cooperation in the matter of the implementation of the Plan schemes. These remarks would also apply to the mass organisations led by these parties or which have an independent existence.

It will be said that there are large segments of the poor people in our country who are not affiliated to any particular political party and mass organisation. How are they to be approached and involved ? It is even said that there are so many who do not vote and even among those who do large numbers are quite ignorant of the issues and parties involved. Apart from the fact that this is a distortion and exaggeration of the situation—the masses of our country are quite political and conscious despite other pulls and pressures—the point is in order to improve the situation there is no substitution for political activity and mass scale politicalisation. And this is best done on issues where division and partisanship can be kept at a minimum.

Rousing awareness

The whole thrust and even competition among political parties and mass organisations should be not only on doing their best to ensure that the benefits of the Plan schemes reach those for whom they are intended. Even more than this what is needed is that the beneficiaries themselves become more aware, organised and self-confident. They should be assisted and led to move from being objects to being subjects of the immense human drama that India is today. This is an intensely political task and precisely because it is so its execution cannot be left to either nondescript or even dubious voluntary agencies.

To bring about increasing mass involvement an important requirement is that the political parties involved should rid themselves of narrow electoral considerations and have a longer perspective even from the angle of their own advance. It is sad to hear even veteran and seasoned political leaders with radical commitments bemoan the fact that despite their work for the masses, the latter do not vote for them ! This was not how the radicals used to react in the past to either the motivation for their work or the response of the masses. There was no electoral expectation in those days. The often quite stubborn inertia of the masses evoked only additional sympathy for them and determination to slog away harder at the task of mass awakening and organisation as the key to any kind of solid guarantee of eventual victory.

This is the orientation that is still required. And since this is a matter of personal conscience and commitment, in the ultimate analysis, it can be termed voluntary. The aid and help of parties and organisations based on this kind of a voluntary approach is certainly indispensable to the successful involvement of the masses in Plan implementation.

Make better use of Radio, TV

There is another aspect to the problem with which this article will deal. And that is the new possibility of direct mass awakening and propelling them to organisation on the part of the government. And that, of course, is by the use of the Radio and TV in the first place and of the newspapers as well. The experience of both revolutions and counter-revolutions in the contemporary period demonstrates that the mass media are now to be regarded as crucial elements of state power. They should be used as such by any state which is unafraid of mass awakening and on the contrary, wishes precisely to evoke it as part of its efforts for national regeneration and advance.

This use of the mass media is not the same as its abuse for projecting only the ruling party and its programme. We have given ourselves a Constitution the preamble to which clearly sets out our commitment as a nation to socialism, secularism and democracy. The involvement of the masses in Plan implementation is an integral and indeed, important part of the carrying out of this nationally accepted constitutional commitment. Why then can the Radio and TV not be used full blast to achieve this purpose ? Education of the masses should not be viewed in a narrow technical manner as promotion of better understanding of, say, hygiene and fertilisers. It should and must involve imparting of knowledge about what they can get out of government's schemes and plans. The Radio and TV must become organs of mass campaign. And this as an indispensable part of state strategy and action, where voluntary agencies would have no role to play at all.

And a word of caution !

Finally, some words of caution about voluntary agencies who are active among the poorer sections of our society. I should imagine that there are few, if any, countries in the world like India where it is so easy to get anywhere and approach anybody in the name of helping the poor. This not only creates an incredibly bad and wrong image of our country but makes it penetrable in the easiest posssible manner by all kinds of agencies of destabilisation. This applies not only to foreign agencies but to Indian ones as well. The massive funding that was proposed for mass illiteracy eradication some years ago is a case in point. This is also the case with certain village uplift programmes of voluntary agencies and leaders who are quite clearly strongly opposed to our nationally-accepted objectives, plans and programmes. Rather than giving them additional scope for their burrowing activities, it would be better to investigate what they are up to and control and curtail them. □

An escape or a commitment?

D. Bandyopadhyay

Making out a strong case for active involvement of voluntary organisations in the process of conscientizing the masses and implementation of IRDP schemes, the author points out that "there is a basic limitation of the bureaucracy to do various types of tasks with that degree of excellence which would not only materially benefit the poverty groups but also usher in a process of social change".

POVERTY AND SQUALOR, disease and disablement of others often provide not only a likeable diversion but even some amusement to those who suffer from the boredom of affluence, surfeit of economic power and giddy social ascendancy. It is not an uncommon sight to find dowagers of wealthy families and important Houses talk in undertones in the flower bedecked terraces or plush dining rooms of a Gymkhana Club, or any other exclusive five-star meeting place, fixing dates for meetings of Executive Committees or Sub Committees for a Women's Knitting Centre or a Day Child Care Home.

And momentus decisions!

In such meetings of stately old ladies with sprinkling of spruced up and sprighty younger ones, held in luxury mansions, momentous decisions regarding giving an increment of five rupees to an ayah or getting some one else's private servant's nephew appointed as a part-time Chowkidar would be taken with all solemnity. That apart, gossip of possible matrimonial alliances and delectable peccadilloes would be discussed and eagerly devoured along with jam-tarts and Darjeeling tea or *jalebi* and *lassy*.

Among the hangers-on would be smart looking ambitious Company Executives for whom these gatherings provide shorter by-pass to accelerated advancement of career. They do the leg work for getting customs clearance for gift packets from abroad, keeping meticulous accounts of Company expenses for such worthy meetings for 35CCA deductions from taxes and getting subventions from the appropriate Government Departments to make the Home or the Centre run. The inmates of such Homes|Centres or the beneficiaries of any such ventures would any time provide an appreciative captive crowd or the man-power for anything worthwhile being done by such Houses or families. The ennui of abundance is sought to be countered

TESTING VOLUNTARY AGENCIES

by some activities for the poor which incidentally also provide opportunities for contacting influential public personages and top Government officials with their beneficial fallout in other spheres of life. Such voluntary ventures one understands.

The other genre !

But there is now another genre of social activists working in various parts of our country among the depressed, the dispossessed and the oppressed in fairly hard and harsh circumstances, the like of which was not visible in the yester-years, excepting among the missionaries. There is a Khem Raj in Jhabua, a Jotsna in Singh Bhum, a Tushar Kanjilal in the Sunderbans, an Aruna Roy in the Bhil areas of Rajasthan, an Achut Das in Koraput and many others of this ilk working selflessly and fearlessly devoting the best part of their youth and energy for fighting injustice and trying to secure things that legitimately belong to the poverty groups.

"Many such organisations act as conduits for funnelling foreign funds for the uplift of the third world's poor, most of which goes for the up-keep of these high-shine busy-bodies flitting from one international centre to another pouring their hearts out for the poor in the lounges of Sheratons and Holiday Inns."

For most of them, it is not an escape from the weariness of wealth but a positive and conscious involvement in trying to bring about the desired social change for those for whom time had stopped long ago. What motivates them ? What sustains them ? What resources do they have ? What prevents them from getting disillusioned ? Answers to these queries are essential before such voluntary non-political workers and their organisations get associated with or embark upon sustained and long drawn out programmes for poverty alleviation and social justice

It is, of course, for them to provide answers largely for themselves. Even so, if they were expected to play a significantly important role in the implementation of the Plan Programmes meant for the poor, the destitute and the disadvantaged, one has to have some inkling at least about their motivation and resource base Is it for them, also, another type of escape out of frustration or anger from the unequal society which treated them harshly ? Is it the spirit of revanche that led them to align themselves with the poor ? Or, is it a genuine concern for the sufferers of a fractured society where the affluence of a few depends largely on the penury of the many ? Whatever may be the answer, the fact remains they are there and there is no reason why, so long as they are there, their cooperation and assistance should not be sought for doing things which the best of bureaucracy in the best possible circumstances cannot do.

And these outfits !

In the generic category of voluntary organisations there are also groups and outfits whose office bearers are mostly airborne and seen more often at the international meets than in the harijan bustees of villages or in slums of metropolitan cities. Many such organisations act as conduits for funnelling foreign funds for the uplift of the third world's poor, most of which go for the up-keep of these high-shine busy-bodies flitting from one international centre to another pouring their hearts out for the poor in the lounges of Sheratons and Holiday Inns. They are the modern jet set, hi-tech, gossamer sleek counterparts of the classical dowager syndrome of voluntarism. We are not talking of them.

The type of voluntary organisations, that we have in mind, are those groups of persons motivated by idealism to remove the social or economic ills of the poor who work in villages and share the experience of the poor by staying and working with them. Quite often, these persons are educated young men and women. Sometimes these groups are registered and sometimes they are not. In most of the cases, these groups started functioning in response to a certain situation, which they thought could be remedied by sustained organisational activity. They may be even motivated individuals, not having formed any formal group, working deep inside the rural areas for achieving certain socially desirable goals through group action. Basically, all these groups have their presence in the villages where they work and they work not through any remote control mechanism, but through direct participation and along with those for whom they are working.

A legitimate question !

One may legitimately raise a question as to why Government should seek the cooperation of such disparate isolated groups of volunteers, whose number is limited and spread is thin, when it has a vast machinery of its own backed up by very large financial resources. In the Sixth Plan, the outlay for the Integrated Rural Development Programmes, the National Rural Employment and the Rural Landless Employment Guarantee Programmes was nearly Rs. 4,000 crores. Though no one knows what would exactly be the outlay in the Seventh Plan, it can be safely guess-estimated that the outlay would be nearly double of what it was in the Sixth Plan, because of the public sector outlay in the Seventh Plan will be substantially higher than what it was in the Sixth Plan. The magnitude of resources available is quite big. Further with 5092 Blocks operating under nearly 430 Districts, the total man-power available would also be very large. Even if there were some vacancies in the set up, these could be easily filled up to provide for necessary Governmental personnel. So far as mobilisation of men and material resources is con-

"The type of voluntary organisations, that we have in mind, are those groups of persons motivated by idealism to remove the social or economic ills of the poor who work in villages and share the experience of the poor by staying and working with them."

cerned for poverty alleviation programmes, there is no parallel in the history of economic development of our country to what is being done now.

But the development process, which merely aims at flow of benefits from top to bottom with the beneficiaries being mute objects is in fact a negation of the whole ideal of development. The object of development is to make the intended beneficiaries as active subjects in the process instead of being dumb recipients of largesse. It cannot be achieved unless the beneficiaries themselves become conscious of their own rights, of the conditions and the circumstances which made them socially and economically disadvantaged and have an urge to alter the situation with proper understanding of the correlations of social-economic forces. Till it comes about the stories of the same cow circulating among a number of beneficiaries of IRDP or large scale leakage of the subsidy fund or under-payment of wages in NREP and RLEGP would continue.

Conscientizing the masses !

Who should take up the task of conscientizing the masses ? Is a Governmental agency the proper instrument for doing it ? Conceptually there may not, perhaps, be any objection to it. But the problem would be immense operationally. Tendency would be more towards pacification. It may lull rather than heighten the critical awareness of the masses which is essential to make them active participants in the change process. Hence, the need for voluntary agencies, which have the capability and the ideological stance to take up the task.

The process of conscientization is not to be done in a vacuum. To be effective, it has to be related to the actual life situation and an attempt to alter the ugly realities through some programmes. This may not be the classical methodology, but a conscious attempt to bring about the radical change in the consciousness of the masses through implementation of one or more programmes would be easier and more widely acceptable. Contradictions would show up more sharply and lessons drawn would not be easily forgotten.

To take an illustration, those voluntary organisations, which are operating in the rural areas for economic development of the poorer sections of the community, could associate themselves as sponsors of the cause of the potential beneficiaries under Integrated Rural Development Programme There are a number of steps involved before a beneficiary or a group of beneficiaries could get the asset and thereafter, try to improve their economic status.

"Basically, all these grouns have their presence in the villages where they work and they work not through any remote control mechanism, but through direct participation and along with those for whom they are working."

In the first place, there is the question of identification and choice. The problem of choosing a few among the deserving many is almost intractable. Any attempt to do it through purely bureaucratic means is likely to trip. Popular participation in this process would certainly reduce chances of mal-choice.

Having made the choice of beneficiaries, there comes the need for selection of right type of investment suitable for a house-hold or a group of households. Currently, a few standard items are rammed down irrespective of the willingness or capability of the beneficiaries. What most of these house-holds require is a package of micro-investments which is within the management in which all the members of the household can participate and which may make the household viable. It is clearly beyond the competence of the common run of development functionaries to prepare such custom-made packages for individual households.

"But the development process, which merely aims at flow of benefits from top to bottom with the beneficiaries being made objects is in fact a negation of the whole ideal of development."

Thirdly, a lot of leg work is required for preparing the bankable schemes and getting bank finances and subsidies for the purchase of the desired assets. There is no system today to do it A whole host of "development middle men" have come into existence taking advantage of the lack of knowledge of the beneficiaries and their incapability to move from pillar to post to get their legitimate dues.

Fourthly, having got the asset, the beneficiary gets exposed to the raw forces of market which are all arraigned against him—he loses as a seller and he is cheated as a buyer. There is no method to nurse him till he stands on his own. Chances are that unable to resist or overcome such unfavourable forces he would go under.

Land reform programmes

If one looked at the steps involved in redistributive land reform programmes, one could also list out various stages of activity. These could be : (i) identification of families having or suspected to have lands above ceilings; (ii) locating and identifying of plots of land in the effective and real possession of every such family, both according to the record of rights (where they exist) or title deeds and in tracing the lands held clandestinely or in somebody else's name (benami) through fictitious or collusive transactions; (ii) initiating quasi-judicial processes of vesting of surplus land, including lands kept through collusive transfers and benami, by gathering adequate evidence which could stand the scrutiny of higher level; (iv) taking over possession of vested land after completing quasi-judicial and other administrative processes; (v) assigning such surplus lands according to the legally prescribed priority among the landless and land poor peasantry; (vi) providing a minimal self-defence mechanism to prevent illegal physical eviction from the assigned land through violence by erstwhile owners; and (vii)

some provisions for consumption and production credit and other inputs of agriculture to enable the new allottee to start cultivation without getting into debt trap of the former patron with eventual possibility of alienating the assigned land.

One could list out similar type of activities involved in various other programmes connected with the economic and social uplift of the rural poor. But if one looked into these two items only, one would find that there is a basic limitation of the bureaucracy to do various types of task with that degree of excellence, which would not only materially benefit the poverty groups but also usher in a process of social change. Group action and exogenous support is essential in IRDP for making correct selection of beneficiaries, choice of investment, getting the loans sanctioned in time and in making a reasonable income by overcoming the unfavourable market forces. A dedicated voluntary organisation could educate, conscientise and prepare the ground for collective action of the beneficiaries by making suitable intervention at all these points.

"The problem of choosing a few among the deserving many is almost intractable. Any attempt to do it through purely bureaucratic means is likely to trip. Popular participation in this process would certainly reduce chances of mal-choice."

Similarly, in the case of land reforms, there is a lot of information available among the sharecroppers and agriculture workers about the status of land. Individually they will never feel encouraged to come forward and give evidence in a revenue court or tribunal. But, if they could be organised or an institutional format could be devised where they could collectively come forward, most of the crucial information would be available through which clandestinely held land could be legally vested and distributed among the rural poor. An investigative governmental agency can certainly do this task to some extent, but if it had the support of the voluntary organisations of informal tenants and agricultural workers, it could do the job much better. There are instances of such success cases in a couple of States in this country.

Their anti-establishment stance

Most of the genuine voluntary organisations which now exist and operate at the grass-roots came into being basically with an anti-establishment stance. Their deep concern for under-privileged and their realisation that nothng at all or much being done for them made these ideologically inspired social activists to work among the poor. Cases of severe oppression engineered by the local vested interests often motivated these activists to operate among the oppressed to organise them to fight for their legal rights. Some of these groups may fight shy at the suggestion of cooperating with state-sponsored programmes. But conceptually there is nothing wrong about it. Since their avowed policy is to fight for the poor, they may do so much better in ensuring that poor got the maximum benefit from the variety of programmes meant for them.

Wherever voluntary organisations exist, they can come forward for getting the different activities done properly and in the process, initiate the beneficiaries in collective action. They would have to take a collaboration-confrontation approach vis-a-vis the local functionaries and the dominant social groups. Wherever they find that the local bureaucracy is sympathetic, willing and responsive, they should collaborate. Wherever they find that they are impervious, corrupt, arrogant and anti-people, they have to take a confrontationist line, without exposing the beneficiaries too much to the wrath and retaliatory backlashes of the local State apparatus and the vested interests. It is a delicate task, but if it could be performed well, the seeds of endogenous group action would be sown and a collective organisation would soon come into being, which would look after itself thereafter.

In the field of adult literacy, public health, particularly preventive health care, there is an immense scope for the voluntary organisations to bring the people and the adminstration closer.

No cooption into the system

In suggesting the areas of cooperation it is not the intention to co-opt the voluntary organisations into the system as unpaid extension agencies of the State apparatus. In fact such a cooption whether induced or voluntary would drastically reduce their capability and effectiveness. They should remain on their own, keeping aloft their ideological identity and organisational autonomy. Their existence and operation will alert the local bureaucracy and reduce its mischief potential.

Obviously, the bureaucracy in many cases would resent their existence or even their active role. The bureaucracy, steeped in regulatory ethos and accountable only to its own hierarchy within the system, would detest and resent genuinely participatory involvement of the voluntary organisations in the implementation of the Plan. Moreover, the elitist tradition that it has inherited makes the bureaucracy think itself as the sole repository of public interest. Any other organisation working in the same field is likely to be looked upon as illegitimate intruders into the pristine jurisdiction of the bureaucracy. The bureaucracy would require sensitization, which could come through very largely if it were made to work along with voluntary organisations.

To the extent voluntary organisations succeed in mobilising the beneficiaries and in securing benefits to them, they would incur the displeasure and anger of the local exploiting groups. Anything from character assasination to trumped up criminal cases to physical elimination may follow depending upon how hard and effective had been their assault on the bastion of such interests. Voluntary organisations would have to contend with these elements with conviction and courage.

In the ultimate analysis, the voluntary organisations will have to play the role of the watchdog of poor men's interests. To perform this role effectively, they would have to bark at, any, bite the persistent trespassers. Would they ? □

Why go for a false alternative!

Kamal Nayan Kabra

Attempts to create an alternative to bureaucracy for planning for development are certainly called for, says the author and he adds, why not be a little more realistic in the matter. The move, he asserts, "like so many false alternatives being propagated to so many genuine issues, the officially recognised, financed and co-opted voluntary agencies will prove another anachronism and false alternative".

IF THERE CAME UP some non-governmental organisations (NGOs) to organise and implement some programmes for community development in an area, it would undoubtedly be a continuation of the tradition of constructive work initiated by Mahatma Gandhi. If many such organisations come up to undertake good many of such missions of community help, there may arise a need to co-ordinate them. The co-ordination may be considered necessary by the government and planners and may be resented by the voluntary constructive work agencies as an unwanted or even unwarranted interference. In a market economy with a lot of role for private enterprise and initiative for the growth of the economy and allocation of social resources, it may be suggested that the non-profit motivated agencies need not be subjected to governmental regulation and control in the same way as profit-motivated private activities are.

But, the snag is...!

If a NGO is mobilising resources voluntarily from the community it is working with (and not 'for') or is making a net transfer of resources to the community chosen from within the national economy without involving foreign funds and within the legal framework of the country (determining registration, audit and work regulations and controls e g, under the Societies Registration Act) and without harming or impeding public planning efforts, there may well exist a case for permitting such agencies to continue with their efforts at articulation, mobilisation and implementation of programmes of local community development. Their efforts at organising active participation by the masses in self-sponsored development programmes and acting as watchdogs for proper channelisation of the benefits of officially-sponsored development would become meaningless if government support or intervention in the voluntary efforts was invited or imposed. All that is required of the government is that they do not obstruct the NGOs from acting as organised action and pressure groups. The rest is the function of popular acceptance of the role, credibility and activities of the NGOs.

TESTING VOLUNTARY AGENCIES

Apparently, small, decentralised nature of such efforts making use of the freedoms available in our system involves weakening the tendency to look to the State as the only and exclusive instrument and agent of development. It need not imply the rejection of the State or its role and character The idea is to create alternative focal points and instrumentality particularly for those who either find it unreasonable to accept the present development process as meaningful or have serious misgivings about the intentions and objectives of those controlling the government. Given their basis either on the principles of spontaneous grass-root level self-help or a mixture of service to the community with the principle of helping the indigent to help themselves, the effort of voluntary agencies acquire a certain appeal,role and legitimacy. One presumes that some such genuine voluntary efforts, springing from the grass-roots or based on some higher ideals of service to the community despite some philosophical qualms concerning the moral right to 'develop' others and legitimacy of 'developers' may contribute to the well being of the communities involved. It is a twice-blessed enterprise—it helps those who help and those who are helped. However, there have been but only a few, if any, such NGOs participating in social development through voluntary, community effort.

> **"Apparently, small, decentralised nature of such efforts making use of the freedoms available in our system involve weakening the tendency to look to the State as the only and exclusive instrument and agent of development."**

A mushroom growth !

In contrast to the above, there has been a mushroom growth of other types of voluntary NGOs. Some are based on foreign, often religious, denominational funds and organisations (leaving alone the question of their hidden links with organisations of dubious character and doubtful motivation) Others are based on indigenous sources of funding, personnel, design and charter. Some of the latter may be based on contributions from a large number of small donors, with lots of contribution in kind, work and 'commitment' from people who are public-spirited, and may involve catalytic role for raising local resources from the intended beneficiaries themselves Motivations may range from ideological, political, philanthropic to religious and psychological. Even obscurantist circles in the country have embarked on such 'grass root' development and 'penetration' enterprises.

Then, there are NGOs with relatively larger and regular access to funds of business organisations, or charitable trusts or similar organisations. The business men and the well-to do have a complex motivation in financing these outfits . social responsibility, trusteeship, tax-benefits and incentives, widening of patronage and acquisition of prestige. marketing, reconnaissance and penetration, image-building, etc. For public limited companies, such funding may become a part of tax-planning, tax-avoidance and tax-evasion along with a chance of giving a good public image to the controlling industrial houses. Direct economic, [illegible] and social benefits may also be reaped.

And this new trend !

Some new trends in the emergence of NGOs may also be noted. Many academics and professionals, not content merely with research and writing tend to move forward to active, 'Positive' and 'purposive' intervention: the action-research NGOs. Many interests see in NGOs an attempt to build alternative foci for mobilising the poor, particularly by way of grass roots 'micro-politics'. This is an attempt steadily or otherwise to weaken, expose and ridicule organised national level political groups and formations avowedly championing the cause of the dispossessed poor. The way in which many international agencies, and some governments respond to these initiatives with enthusiasm suggests that their thrust towards anti-poltical formations is winning some new supporters for the 'voluntary' agencies of a certain type, supposed to be operating for community development in rural and urban areas. This methodology is intended to become a double insurance against change, whether evolutionary or through insurgency, in as much as it fosters a certain kind of change while thwarting change which threatens their supremacy. It is an enlightened pursuit of power and privilege.

If these 'voluntary' agencies or NGOs are looking for government recognition, government support and co-ordination of their own violation and accord in order to become co-opted in the government system, there arise a couple of questions doubting the nature and degree of voluntariness of the voluntary agencies. In case when the so-called voluntary agencies start looking for government recognition, finance, co-option and, support and begin to portray themselves either as more knowledgeable, efficient, committed or less corruptible for implementing the plans and programmes prepared by the State, they represent a polar-opposite of voluntariness and non-governmental character. They become a different route for entering the ruling elite and official plan establishment.

The claim made is .. !

Such voluntary agencies base their claims for greater role and effectiveness on the unhappy experience of plan implementation particularly for rural and agricultural development and for poverty alleviation programmes by means of established bureaucracy and governmental machinery. It has been claimed that the bureaucracy and planners are selected on the basis of university degrees and such academic qualifications without regard to practical experience. It is contended that those who have not lived in villages, experienced poverty, dirtied their fingernails and worked with small and marginal farmers or the slum dwellers and derive their knowledge from the first and the second world

> **"It is a twice-blessed enterprise—it helps those who help and those who are helped. However, there have been but only a few, if any, such NGOs participating in social development through voluntary, community effort."**

are hardly in a position to be effective instruments for preparing and implementing plans for the benefit of the downtrodden. No mention, however, is found in these critiques making a case for voluntary agencies, of the class, professional and socio-economic bias and vested interests of the bureaucracy which leads to diversion of benefits of 'development' away from the stated 'beneficiaries'. May be because the protagonists of NGOs have no different hues and biases to show up than that of the ones they plan to replace that these grounds for failures in the 'delivery' of the commodity package called 'development' are not brought out.

The pleadings, and their implications !

Basing themselves on such premises, the enthusiasts of voluntary agencies are pleading for earmarking of 10 per cent of the fund of IRDP and NREP for the voluntary agencies identified by the State Governments. It is further suggested that these NGOs also be formed into consultative groups at the State level for project planning and implementation. In fact, it is also suggested that the technical and administrative personnel like agricultural scientists and IAS probationers should be trained by the 'voluntary' agencies. Then, it is suggested that they should be associated with monitoring and evaluation of various programmes and projects in order to become "the eyes and ears of the government".

If these suggestons are accepted and acted upon, in addition to the present public functionaries, (selected, trained, posted, remunerated, controlled and evaluated in a certain formalised fashion), there will emerge a new tribe of self-appointed, self-motivated, self-certified non-governmental functionaries, handling government projects, plans, funds and personnel. True, these agencies will have to be identified and selected by the government. It is not clear if all the functionaries of the voluntary agencies will be honorary workers or they will be assisted by hired personnel. If these bodies are to consist of professionals, who would pay for them ? If they are all not born with a silver

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spoon in their mouths or inherit fortunes which absolve them of the daily cares of bread and butter, or are not financed by international political, religious, diplomatic and business funds, except for self-selection and incorporation, what is voluntary about these persons which is different from public functionaries selected through legal, formal processes ?

Some pertinent questions !

Acting as eyes and ears of the government, the functionaries of the voluntary agencies are likely to develop a certain love-hate relationship with the public functionaries. Would the lines of demarcation between the two always remain distinct, particularly when the NGOs too will have to submit to proper accountability, exercised inevitably by the hated and derided bureaucracy ? Then if these NGOs are also to go into action to mobilise the poor to demand their rights and destabilise the vested interests, what are the bases for believing that they would be different from the State bureaucracy and succeed where the latter have failed ?

That some voluntary bodies may in some cases and in certain areas have done things very well is neither a guarantee nor a scientific basis for accepting that after incorporation in the State planning and development framework and acquiring a certain position vis-a-vis the State bureaucracy, they would continue to

"The business men and the well-to-do have a complex motivation in financing these outfits : social responsibility, trusteeship tax-benefits and incentives, widening of patronage and acquisition of prestige, marketing, reconnaissance and penetration, image-building."

function in the same way. More important, the hope that a large number of new agencies which would volunteer in the coming dayswould continue to work with similar dedication and efficiency is also a matter of faith and is quite unmindful of the manner in which the vested interests operate Who or what would prevent these very vested interests from appearing in the garb of voluntary bodies ?

Then, it is well known that similar dedication and efficiency as shown by NGOs has been shown by some public functionaries as well. Does it become a basis for any generalised role determination for the bureaucracy as a whole? In one word, unless one assumes that only some superhumans, insulated from the pulls and pressures of the extant system, will form the voluntary agencies and, none others, if formed, will be approved for participation in IRDP and NREP by the State, are the expectation about more rigourous, honest and effective implementation likely to get reflected in reality. In any case, such association with the State agencies and programmes puts the NGOs in a role similar to that of external 'developers' who can hardly rise above the vested-interests-ridden character of the state and its bureaucracy.

Yet more fundamental !

A more fundamental question arises because of the stipulation often agreed that the voluntary bodies are either apolitical or are not to be associated with any political party. Since the ruling party makes the choice of voluntary bodies, there will be possibilities of NGOs associated with the ruling party finding entry into IRDP and NREP. If *it is additionally* assumed that only the ruling party associated groups can honestly implement plan programmes, identify and organise the target groups, fight various vested interests and can give correct feedback, it can probably make sense to keep other political affiliations out. But if the writ of ruling party can ensure all these things, where is the need for any role for NGOs, as the former has greater control over the bureaucracy?

Are development programmes apolitical or non-political exercises? Are those who form the voluntary bodies expected to be political recluses or neutral

(Continued on page 39)

A very welcome move indeed !

Nana Deshmukh

To elevate the poor and the downtrodden to the level of the rest is a challenging task and the government can never do it through the bureaucracy, argues the author and adds, the goal could be achieved by actively associating voluntary agencies in the development task. This task, he maintains, can be performed only by the selfless souls, who live and work in the midst of the poor.

LONG YEARS AFTER India became free, crores of our poor and unlettered people continue to eke out a miserable existence. Even since 1952, the Planning Commission has been exerting itself to bring some light in the life of this vast and desolate humanity. In pursuit of this object, astronomical amounts of money have already been spent. And yet we have not had the desired results. So the Planning Commission is on the look out for a more appropriate methodology. In this context it is also being considered how far voluntary agencies can contribute to developmental activity. This is a long-awaited and very welcome step.

Development ordinarily is taken to be economic development. That is why we hear the slogan of "Garibi Hatao". And that is also probably why, finance figures so prominently in developmental plans The importance of resources for development cannot be denied. And yet the adequacy of finance cannot, by itself, ensure adequate results. The preceding thirty years' experience is eloquent testimony of that.

This depressive psychology !

Even in this Age of Science most of our poor and uneducated brethren are convinced that God has made them poor and no human effort can make them otherwise. Unless we change this depressive psychology of these neglected people, fostered by centuries of poverty and ignorance, it is not possible to awaken those people to the possibilities of change and improvement. It will not be easy to wean them away from occasional crumbs from the Government and make them stand on their own feet to improve their own lot. And, for this, it is not enough to give them some financial help. We will have to create a climate of development all round them and inspire them to be self relient. We will have to help them to help themselves.

Actually the spirit of self-reliance necessary for successful development, is at a discount; and there is a premium on dependence. It has been dinned in people's ears that Government will meet all their needs. Many people, particularly the youth, have come to believe that they will get something for nothing. And so the feelings of self-help, self-respect and help of others have evaporated. So they talk of doles for the unemployed. It would be impossible to rouse the new generation to the tasks of development without reversing this defeatist, anti-development psychology.

The development culture !

Government has the power to make laws, run the administration and provide funds. But good laws are not, by themselves, going to yield good results unless people's prejudices are removed. Nor can the laws by themselves teach men to conduct themselves in tune with new times. Laws have been enacted abolishing untouchability and banning dowry. And yet these evil customs persist. It is, therefore, necessary to create the right social climate in support of these laws to make an effective implementation of these laws possible. This need is acutely felt, but it is not being met. In this context the way the leadership is functioning gives much cause for concern. It is going counter to the spirit of the law. The pre-Independence methods of law-breaking continue to be used for the redressal of grievances real or imaginary, in Independent India. The people's problems are real and they have got to be solved. But it is not desirable that people should lose all respect for the laws. Antisocial elements are taking full advantage of this situation. And the administration is growing weak all the time. This state of affairs will not help anybody. But the leadership does not seem to realise this. And so lawlessness is on the increase. This goes completely counter to a culture of development.

Public welfare depends on the active cooperation amongst the citizens. For this it is necessary that individual citizens and social groups should have goodwill for one another. Actually, after Independence,

TESTING VOLUNTARY AGENCIES

running down others has become the chief activity of big people. And to this end all instruments of propaganda are being used As a result an atmosphere of distrust obtains at all levels of society. In this situation, how can we generate the spirit of cooperation and goodwill amongst the people necessary for development ?

"Many people, particularly the youth, have come to believe that they will get something for nothing. And the feelings of self-help, self-respect and help of others have evaporated. So they talk of doles for the unemployed."

What we need is.. !

When I mention these four problems I do not mean to say that, for these reasons, nothing can be done to uplift the poor and the down-trodden. But it is important that we should know the actual situation in its stark reality. Only then can we take the necessary steps to correct this position. Otherwise it will not be possible to develop the country without undue loss of time and resources.

Ours is an ancient society. Many old and unsuitable habits are deeply rooted here. And then there is the heritage of prolonged subjugation. We have to utilise scientific advancement and evolve technology keeping in view all these things. We have to develop our society and build our economy without compromising our values. It will, therefore, be good for us to keep an important consideration in mind. Under the leadership of Mahatma Gandhi our society promptly ended the 150-year foreign rule of the biggest empire in the world. This was not achieved through money power or state power; it was achieved through people's power and the great power of idealism. Today we can join state power and money power also to social ends Our task therefore, should be simpler than before And yet, in fact, it has become harder This is because the very social force that had earlier delivered us from foreign rule, has now become dependent on state power and money power. This is the big reason why we have not had the expected results in development activity. It is, therefore, of the utmost importance to foster active cooperation between People's Power particularly the youth power and State Power at all levels.

And who can do the job ?

We have to first make self-dependent all those whom we want to lift above the poverty line We have to elevate the poor and the down trodden to the level of rest of the society To this end we have to kindle their spirit of initiative. In the absence of their own initiative, they can neither attain all-round development or stablise their progress. Government can never do this job through the bureaucracy. This task can be performed only by those who live among these poor, who are not angling for office and who are not after creature comforts. It can be done only by those who are moved by the POVERTY of the poor, who identify themselves with the poor and who, like the foreign missionaries, will go to the remotest villages and the densest jungles, to serve them, without caring for comfort or discomfort, touchability or untouchability.

Innumerable young men suffered and sacrificed for the country. Many climbed the gallows with a smile for the country's Freedom. It is therefore wrong to think that our young men will not sweat and bleed for the uplift of the poor and the down-trodden. During the Freedom Struggle many renounced domestic ease and official honours and staked their very life. Such patriots were a source of inspiration to the younger generation, who then did even better than their Leader. They were untouched by temptation.

Only voluntary agencies !

However. all this changed with the coming of Independence. Today's leaders do something only to gain something. They want to function only on the basis of political power. Thus whole atmosphere reeks with this dependence on authority. In this situation how can we expect better of our youth ? It is therefore important that men of education, experience and prominence should come and set an example in the service of the poor. This job can be done only by voluntary organisations. I do not claim that these organisations are equal to this job. But they recognise the importance of social service for the success of development projects. It is of the utmost importance that the vast reserve of youth power is put to constructive use And only voluntary organisations can inspire them. Even during Freedom Movement social reformers played a great role But this tradition has been ruptured after Independence Power politics dominate everything. And so people want only to take—and not to give anything. In this situation only such voluntary organisations as keep themselves scrupulously away from power and from politics, can help. It is a matter of joy that even in this difficult situation there are many men, women and voluntary organisations who are serving the poor in remote villages and city slums, in hills and jungles, with devotion. That they should stick to this work inspite of criticism and neglect, gives us all hope for the future. The four difficulties I have enumerated above will begin to melt away as more and more people begin to contribute their mite to development. They don't expect anything from anybody. With an example and inspiration like that, even the poor will come into their own and build themselves up.

"Power politics dominates everything. And so people want only to take—and not to give anything. In this situation only such voluntary organisations as keep themselves scrupulously away from power and from politics can help."

All this will put new life in the administration also. And that in turn will increase people's faith in it—and further contribute to people's participation in development work. As voluntary effort, by individuals or groups, receives recognition as agents of development. a new wave of public service will sweep the country in all spheres and at all levels. It is for the Planning Commission and for the Government at the Centre and in the States, to make up their mind on the subject. Such mutual cooperation between People's Power and State Power will be decisive in the reconstruction of Bharatvarsh. ☐

Hopes may remain just hopes!

Bharat Dogra

The author, a well-known free lance journalist, takes us to the depth of the problem and unfolds the scenario to caution against the doings of the vested interests. Let's not, he argues, overlook the realities of the situation and tend to pin high hopes on the outcome of involvement of voluntary agencies in project implementation particularly, IRDP and NREP.

IN RECENT YEARS in several documents and statements, both official and non-official, it has been stressed that voluntary agencies should be involved in the implementation of various development programmes. Occasionally very high expectations have been reposed in the implementation of these recommendations.

While several statements can be quoted in this context here we are quoting from only source—the Sixth Plan document to give a broad indication of how such arguments are presented. The document stresses the importance of the promotion of "purely non-governmental organisations, formal or informal in nature, which could motivate and mobilise people in specific or general developmental tasks." According to this document, "the task of educating and mobilising the people in this direction is more effectively accomplished when it is institutionalised. Individual action though important can only be sporadic in nature, whereas institutionalised action can be distinctly more effective in mobilising local resources, articulating needs and coordinating the development tasks which are undertaken by the people.

The missing link !

This document then goes on to mention several specific types of voluntary agencies which can be involved in implementation of development projects. In this list, organisations which are mobilising the oppressed landless labourers for fighting exploitation are excluded. On the other hand, Rotary and Lions Club, business houses and their chambers etc. are included. In fact, it is even suggested that specific blocks in each state will be selected for development by the coordinated action of several business houses. So, in future we can expect agricultural development programmes being implemented by fertiliser companies, dairy development plans by dairy equipment manufacturing companies and fisheries programmes by trawler manufacturing and fish exporting companies (or voluntary agencies financed by these companies).

This document then goes on to mention several 'success stories' in the field of 'voluntary action'. Four specific examples are given, but at least two of these have faced well-deserved criticism in recent years, one for propagating distorted technology in cattle breeding and the other for exploitation of women workers. The document then states that the country is "dotted with numerous . examples of highly successful voluntary action of this nature."

In future this involvement of voluntary agencies is to be obtained on a wider scale. For this purpose an illustrative list of some of the activities in which "awareness and conscious participation of the people is critical for success" has been drawn up. Again implementation of land reforms and minimum wage laws, an area where people's participation is most needed, has been excluded from this wide ranging list.

Now let's examine..... !

Now let us examine to what extent the high expectations reposed in the involvement of voluntary agencies in development tasks are justified ? A basic problem that we face in trying to answer the question is that the aims, motivations, ideology, dedication, quality of work and personnel etc. differ from one organisation to another. There are thousands of voluntary agencies which in one way or the other are involved in development work but differ greatly from

TESTING VOLUNTARY AGENCIES

each other in the extent, direction and quality of this involvement.

Some voluntary agencies may be functioning mainly to act as a check on corruption, inefficiency etc. which generally plague the implementation of many development programmes. Some agencies may see their main role in finding technical solutions to some problems which are the cause of drudgery among villagers or which can improve the yield of their fields. Some other agencies may have a deeper involvement in challenging the basic structure of poverty and exploitation. Or these various objectives may be mixed up in some agencies, and some agencies may themselves be quite confused about which of these and other related objectives should be their main concern.

And, what in such conditions!

On the other hand some people who set up so called voluntary agencies may be motivated by mercenary objectives. Or they may start with good intentions but become corrupted later. In a way "development" has also become a well-organised racket. For instance, some multinational companies may be interested in a particular type of development strategy as it promotes the sale of their products To make this strategy popular, they may be willing to directly or indirectly finance 'voluntary agencies' which are devoted to popularising this strategy of development or particular type of technology.

At a different level it is well known that today it is possible to get a lot of funds from national and international sources in the name of poverty-alleviation. So like any other business proposition this is also used as a pretext for getting funds some of which are swallowed by corrupt people or used for giving jobs to relatives etc. Some agencies getting foreign funds may have even more dangerous objectives.

"Individual action though important can only be sporadic in nature, whereas institutionalised action can be distinctly more effective in mobilising local resources articulating needs and coordinating the development tasks".

Some voluntary agencies may not be corrupt in such a brazen way but in a different, more subtle way. They are dependent for their comfortable functioning on funds from different sources. In the course of their close inter-action with villagers they may come to conclusions that may not be palatable to these sources of funds. Then in order to keep getting these funds regularly these people try to turn their face away from reality or at least present it in a covered-up, sugar-coated way.

This writer fully endorses the view that programmes meant for benefiting the rural poor should be implemented with the involvement of the poor. But to what extent are several of these agencies genuinely representative of the poor and genuinely involved in their welfare ? This question will have to be answered differently for various voluntary agencies. We should be careful not to encourage development rackets in the name of people's participation and involvement of voluntary agencies.

How about the consensus ?

It has been officially stated on several occasions that voluntary agencies should be involved in the implementation of development programmes of the government to ensure that these programmes are implemented properly. However such statements seem to be conveniently assuming that there is a broad agreement among voluntary agencies that the present day development programmes of the government are the right kind of programmes. The question of an agency helping in the implementation of a programme arises only when the agency agrees that it is the right kind of programme and so its implementation needs to be assisted. On the other hand, if the agency is critical of this programme, then the question of helping in its implementation does not really arise.

To give only one example, in the area of technology, there has been a debate in our country regarding the desirability of the technology of cross-bred cows in promoting dairy development. However, many government programmes in dairy development are based on this technology. Similarly several critics object to large scale gift imports of milk-products but the existing dairy programmes are substantially based on these gift imports. Several such areas can be identified where experienced academicians and social workers in close contact with development realities have objected to the technology or strategy choice of government programmes. Several of these critics belong to or are connected with some well-known voluntary agencies. Should these agencies be asked to or should they be expected to become involved in the implementation of these programmes ?

Judging by recent official documents, the government relies to a large extent on programmes like IRDP and NREP for fighting poverty. On the other hand, several concerned people in the country feel that the roots of poverty in India lie in the existing inequalities. According to Planning Commission data (Sixth Plan Draft) the top 25 per cent of rural households operate 75 per cent of the land while the bottom 75 per cent operate only 25 per cent of the land. According to C. T. Kurien's well known study of Tamil Nadu sponsored by the ICSSR, the top 1 per cent of rural households own more assets than the bottom 90 per cent.

Given this reality the government's redistribution programmes are very conservative Out of the nearly 3400 lakh acres of cultivated land in the country only 20 lakh acres had been redistributed till 1983 under ceiling laws despite so much of rhetoric on this point. As such several honest men in the well-meaning voluntary agencies may feel that the government's emphasis on IRDP and NREP to the neglect of radical re-distribution is lop-sided and so they may not feel involved in the implementation of 'development programmes'. On the other hand the corrupt men in the mercenary voluntary agencies will gladly agree to become involved in all sorts of distorted development programmes because their only aim is to corner a part of the funds.□

Yes, they surely matter !

Aloysius P. Fernandez

Stoutly defending the useful role of voluntary agencies in the country's development process, the author strikes a note of caution. He asks, "To what extent can voluntary agencies collaborate with Government without losing or diminishing their voluntary features?" And, in reply, the author adds voluntary agencies cannot deliver the goods not only if they are too few or inefficient but also if they are too closely integrated with the government system.

WRITING IN THE MIDDLE OF 1300 ha of treeless wasteland; strewn with rocks and boulders, with soils leached and eroded, an average rainfall of 400 mm and meagre groundwater resources on which a volag (Voluntary Agency) plans to resettle 400 released bonded families in a self reliant community—the answer is YES! It is Yes, because within two years, 60,000 trees are flourishing, wells and wiers have impounded sufficient water for hope to take root, the land is contoured, a groundnut crop yielded an average income of Rs. 1000 per family, a Cooperative Society has taken off with 175 members, 65 permanent houses are completed. The Banks which refused to lend a paise last year for inputs because their experts claimed that "nothing will grow there", have now advanced approximately Rs. 5 lakhs towards crop and bullock loans to the settlers and linked up with the Cooperative. Above all, the community is motivated to run a Development Council which is progressively assuming control of its daily affairs.

An integral part !

For years, the question has been "to what extent should volags be involved." Some even questioned their right to exist and to function effectively; while there were no doubt valid reasons for the assumptions underlying the right of certain volags to exist, the institution of volags as such is integral to a democracy. To what extent can they collaborate with government without losing or diminishing their voluntary features, is however, a timely and important concern. For volags cannot deliver, not only if they are too few or inefficient but also if they are too closely integrated with the government system.

If volags are to do the job, besides the flexibility and commitment which are their features they need to absorb (1) elements from the simple life style of genuine Gandhians (2) the ability to organise the poor characterstic of the sincere if idealistic radicalism of so-called leftists (3) the institutional stability of the older churches and (4) appropriate management and accountability systems. Asking too much? not enough if volags are to meet the challenge and meet it in time!

Most volags have these features but with a dominant visible profile conditioned by their origin and inspiration. Volags with features listed under the first three categories, however, predominate; after all, the majority of recognised volags till the late sixties were Gandhian or church inspired with the more radical leftist grounds growing in the early seventies. What volags need to absorb today are modern management and accountability systems. This has become imperative because of the large size of a number of volags—at least 73 have over one hundred on staff—and the increasing quantum of funds placed at their disposal. Given the major change in official policy to involve volages in anti-poverty and minimum needs program-

TESTING VOLUNTARY AGENCIES

mes, further funds will flow and the need for management and accountability increases.

But the question is . . . !

The new official thrust to include volags may give the impression that hitherto volags were not involved in these programmes in a significant way. They were, since financial institutions had targets to meet in their social programmes and could do so only by partnering organisations working with the people. MYRADA alone raised about Rs. 5.5 millions last year in collaboration with NABARD, ICAR (lab to land), DRDAs, Banks and Cooperative Societies. And this experience is no exception. Part of these funds are loans and part grants|subsidies. The governments recognition of volags' role however, can be a double edged sword. It is not just a question of how many or how few volags there are who can handle these programmes, the major concerns are how do they run themselves and what funds can they absorb and use effectively.

To place volags in a position where credit institutions have to advance loans on their recommendation or where they have to send a fixed amount before the end of the financial year would work to their disadvantage. The strength of a volag's recommendation should lie not on official backing nor on the security that the "beneficiary" can provide, because in most cases they have none—but on the effectiveness of the volag's delivery system.

Grants and subsidies from official sources tend to be misultilised, unless volags ensure that the projects are productive and viable in the first place. For examples, biogas plants were approved which were far too large. Subsidies were claimed and plants left incomplete. This is where volags have a significant role—to ensure that subsidies do not become a sources of institutionalised corruption.

A useful-linkage !

To establish linkage among gevernment programmes is another useful role. The Lab-to-Land grants can be invested productively using the critical inputs of Rs. 1000 over 2 years to trigger off permanent growth. For example the first grant of Rs 500 could be used to purchase a cross bred calf often produc-

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ed through the volags animal husbandry programmes. The volag brings in the DRDA or NABARD (which have programmes to supply concentrates and calf starters) thus linking these organisations and enabling them to assist the poor. The volag meanwhile provides voterinary services and supports marketing until milk production is adequate for the government to introduce a milk-run.

It is in the non-farm sector that volags need to give of their best. While volags have the ability to train people in various skills, where they need to devote attention to is in design and quality. Traditional designs are preserved with, while tastes even in rural areas, undergo change. Volags assume that their products will be sold because they have a social halo. This is no longer adequate. Rural artisans, given

"What volags need to obsorb today are modern management and accountability systems. This has become imperative because of the large size of a number of volags—at least 73 have over one hundred on staff—and the increasing quantum of funds placed at their disposal."

adequate training, management and marketing can hold their own in competitive market. Volags have a major role to play not only in implementing programmes like TRYSEM but in making sure that the skills taught are appropriate and have a market. The follow up is crucial. To assume that the entire batch under TRYSEM can and will go into production is unrealistic and if follow up is based on this assumption it will fail. It is also in the non-farm sector that women can be gainfully employed. This is an important service that volags can provide as they are able to recruit and support young and dedicated women workers in the rural areas. It is these women who can develop womens' programmes quickly and effectively. It is heartening that more and more young women from post graduate institutions are coming forward, to live and work in rural areas. They ask for physical security, to work in a team and what is most assuring—an organised and well managed institution. Can all volags provide this environment?

And people's participation

Apart from providing the linkages and monitoring required to utilise available resources effectively, the volag derives its strength from its ability to reverse the process in learning, management and communication. The source and base of this process is often called "people's participation", a much abused term or a term which is used all too frequently today without analysing its content and meaning. True, there is no single or obsolute content or meaning: each volag develops its own concept and strategy of people's participation. Unlike most religions which draw inspiration from a single sources volags write their own Bible on people's participation and it develops not from above but from below. Its source is not a definition established by someone up there but the real listening to and respect for problems and suggestions arising from the people. Its strategy is not assessed by target fixed from above. The blueprint gives way to a learning process in which leadership and team-work from below play the major role. Hence the "feedback" the the target setters and blue printers demand from below, is really the "feed"; the process is reversed. This is where volags step out of the government' sphere of influence into an area where the official network cannot operate.

The importance of people's participation as the key to all anti-poverty or minimum needs programmes has been accepted officially, but it is questionable whether the official system is flexible, resilient and honest enough to absorb the consequences of this acceptance. Once again each experience will differ from the other. The volag needs to develop not only a strategy to build effective participation of people, it also needs a strategy to make the official system especially at the interface more open, flexible and responsive. To adopt a rigid position that all that government does is against development of the poor is to close all doors to constructive dialogue. It is finally, the poor who suffer as a result of our ideological pride.

A long way to go !

People's participation as the base of community development is not new; it was a feature of traditional village life. Tanks were desilted; drains cleared and community assets maintained through community action. A major casualty of modern planning and development projects, however, has been community action. Interdependence which linked all the classes in a village has broken down. The large farmer around Bangalore plants eucalyptus or casurina on his land instead of finger millet thus dispensing with village labour; he does not require a steady income from his fields as he has other sources; when the trees are ready a contractor brings in hired labour to cut and carry the logs away. In this situation it is the poor who suffer most; nobody needs them in the village. Many volags consider their projects mainly as tools to rebuild community awareness through participatory action which can support individual efforts to rise and stay above the poverty line.

But peoples action is no longer supported by a system of traditional sanctions and rewards. These too have broken down. In their place volags have to introduce new and appropriate systems to help a community to manage its affairs. Meetings must be minuted; decisions recorded; responsibilities allocated; penalities imposed. A regular reporting and monitoring system has to be maintained by the community if it is to build on its strengths and diminish its weaknesses.

Volags have a long way to go if they are to live up to the level of expectation that has built up during the past six months. In general they have to move away from revolving around one person no matter how charismatic he or she may be towards a pattern of shared responsibility and decentralisation; from a tendency to publicise every action initiated specially if it is embarrassing to the government, towards a low profile operation in which publicity is given to action completed by the people and their institutions; from an informal relationship in a peer group typical of small volags to a system in which accountability has priority. □

WHY GO FOR A FALSE ALTERNATIVE

(Continued from page 32)

arbiters or fellows who *ipso facto* are the real and effective champions of the cause of the poor target-groups ? The divorce of the politics of development and political development from programmes like IRDP and NREP would make these programmes merely a means to contain social unrest, ensure labour supply to the investors and generate markets for various producers so that profits can be realised by the industrialists. The State-associated, not-so-voluntary, public-funds-using-agencies, implementing the programmes chalked out by the rulers of the day would certainly not be a political or politically neutral; they would be an all too willing tool of the ruling political strata. If undisclosed sources of foreign funds are also involved, these agencies become a contingent of those self-appointed global policeman who try these other counter-insurgency measures prior to resorting to saturation bombing and open warfare.

The summing up . . .

In sum, attempts to create an alternative to bureaucracy for planning for development are certainly called for. However, the institution of voluntary agencies to replace the usual public functionaries would only mean bringing in a self-appointed coterie whose work, finance, control, overall conception and design of development tasks, social origins and linkages, etc. would be largely the same as are with present departmental, local bodies' based, or 'autonomous' agencies or development corporations' type organisations.

Implementing an official plan through non-official agencies will compromise accountability and effectiveness without any compensatory gains. Implementing a non-official plan formulated at the initiative of the people at the grassroot level by government financed, autonomous voluntary bodies is something unlikely to be acceptable to the ruling strata. Hence one has to think in terms of NGOs prepared to carry out official plans. This would give backdoor entry to all sorts of vested interests|and in turn also create a few additional vested interests.

Genuine voluntary agencies, immersed in and arising from the politics of development will have, at best, only a marginal link with official, state plans and rather than petition for recognition and funds, they will mobilise, articulate and galvanise the masses for their rights and privileges and in order to obtain staying power and bargaining capacity for its members would undertake projects which improve the present position of their members and enable them to properly share in the fruits of official development projects. They will be linked with the macro-national politics of development. This has to be an effort by the people themselves with minimum of external support even from those who work as though they have identified themselves with the people.

Unfortunately, there are hardly any voluntary agencies of this genre available. Like so many false alternatives being propagated to so many genuine issues, voluntary agencies will prove another anachronism and false alternative. □

Shall we not be running a risk ?

Krishna Dev Diwan

Though the voluntary bodies can help in development work and supplement government efforts, argues the author, they are, as things are, prone to all kinds of pressures. To depend upon them entirely for implementation of poverty focussed projects will be running a veritable risk, cautions the author.

THERE CANNOT BE two opinions on the active role of a well-informed society in the national development work. It has many advantages: the plans are conceived and formulated on the basis of the felt-needs of the people; there is sizeable saving in expenditure; implementation becomes easier, and finally people's aspirations are largely met with. Moreover, in such endeavour, administrative costs remain minimal and money thus saved can be put to productive use for augmenting the G.N.P. In a country like India, with huge population, this method of economic development can lessen the burden on Government in its plans to ameliorate the lot of the people. But, as things are, it is easier said than done. For, any tangible success in this sort of endeavour largely depends on an awakening among the people—freedom from superstitions, traditional prejudices, and a narrow outlook. In the absence of such an awakening, as history tells us, democratic institutions can neither take roots nor survive for long.

Distinctions between forms of development fade away if the system of governance is democratic and wedded to the public weal. If the people are aware of their social goals and are free from narrow considerations world peace will be promoted.

The Indian perspective

India's position is unique. It is a vibrant democracy where the Constitution does not recognise dictates of an individual or group of individuals. Citizens are free to pursue their welfare and development within the framework of socialistic pattern of society. The age-old traditions have always reminded us of our heritage, highest form of socialism mutual cooperation and sacrificing one's self interest for the good of others, though during the British Raj, these values suffered a severe setback. Handful of alien rulers created a small class of self-seeking men who exploited the common man of the country, thus strengthening the strangle-hold of their masters. This led to the division of the society in two categories—the rulers and the ruled. Prosperity, higher education, health care and other goodies of life were monopolised by the former while penury, illiteracy, sickness and other ills resulting from the continued exploitation fell to the lot of the poor who formed majority of the country's population; their weal was seldom the concern of the former. This diffidence pushed the poor deep down the abyss of self-centredness, meanness and despondency. They gave themselves up in disgust to servitude of the landed interests and the ruling classes.

TESTING VOLUNTARY AGENCIES

The gap

By the time the alien rule ended, the void between these two groups of society had widened a great deal. The elite by virtue of its education and being traditionally one up in social hierarchy had monopolised the country's services, judiciary and the areas of national economy.

Though the founding fathers of our Constitution had made a number of provisions to reduce the large disparities, the people entrusted with the task of their implementation were the very same who had acted in collusion with the aliens to bring in such disparities. Over the years the situation had acquired the magnitude of a problem, though the leaders realised it only after precious time had been lost. The gravity of it was realised when it was found that legislatures and the Parliament had been captured by the vested interests, and it caused concern to the national leadership. Consequently quite a number of land reform laws, programmes for uplift of the scheduled castes, the scheduled tribes, backward classes and the poor were drawn up and put into practice. But alas ! the legislators and parliamentarians, enforcement officers of the judiciary, administrators, the so-called elite and the landed aristocracy not only cold-shouldered the remedial measures but obstructed their implementation. How then could the poor hope for salvation !

The national leadership, when it reviewed the situation, was horrified to find that the corrective measures had in practice been skewed and failed to make a dent. When this unfortunate realisation dawned on the policy makers and planners, they started formulating and implementing various welfare measures like the Five Year Plans, the 20-Point Economic Programme, etc.

Honestly, things have not changed much though nearly four decades have elapsed since we achieved independence. Even today, the legislatures, the services and even the judiciary are to a great extent monopolised by same groups of people. Our premier educational institutions and universities, medical colleges and other development organisations too seem to be meant for the haves only Five Year Plans have not made much headway. A major portion of the country's population is demoralised and still steeped deep in inertia. The benefits from the nationalised banks are available only to those who are already well-off. The disorientation in implementation of the basically well-intentioned development programmes have baffled the political and social leaders, official and non-governmental functionaries ; but does the reason for this need comment ?

"Though the founding fathers of our Constitution had made a number of provisions to reduce the large disparities, the people entrusted with the task of their implementation were the very same who had acted in collusion with the aliens to bring in such disparities".

The truth is that the people at the helm of affairs are those who are either ignorant of the existing disparities in our social and economic milieus or they do not have the courage to face the facts. Perhaps it was this realisation that led the national leadership to involve the voluntary agencies in the task of development work. In pursuance of this thinking, the Planning Commission has assigned a major role for them both in the Sixth and Seventh Plans.

What voluntary agencies can do !

If we are to provide a better deal to the poor, keeping the democratic set up intact, then they would have to organise themselves by forming voluntary bodies and chalk out a strategy of sustained development, aided by both official and non-official agencies. Ironically, most functionaries of the development machinery, both official and non-official, are busy in securing benefits and power for themselves. They hardly have time for the poor. To keep their interests intact and secure they do not refrain even from victimising or smearing the honest and the dedicated among them. Most of the political leaders are busy in machinations for grabbing power by means fair or foul. And the poor is raking his bones to make both ends meet through his sweat and toil. In such situation, there is only one hope ; it is from the voluntary agencies. The past experience tells us that voluntary organisations can surely supplement the work of the development machinery, and this is the admirable way. However, these bodies cannot succeed in achieving their objectives unless the public at large has high sense of social awareness and wants to turn the corner.

"Even today, the legislatures, the services and even the judiciary are to a great extent monopolised by same groups of people. Our premier educational institutions and universities, medical colleges and other development organisations too seem to be meant for the haves only."

At present, there are thousands of voluntary agencies at work in the country. These can be broadly divided into two categories : first are organised by such socially spirited individuals who group themselves and go out to work in villages and in hamlets. They are well-educated, well-informed and well-trained, though they work among people who are, by and large, illiterate, ignorant and underdeveloped. The other kind of voluntary agencies are those who help people chalk out and run their own development programmes. Most of the present voluntary agencies fit in the first category. In fact, their modus operandi is almost the same as that of non-government departmental machinery. There is not much difference in their manner of working and that of government departments. But most of them are prone to communal, political and to some extent even exploitative pressures which ultimately defeat the ideals they are wedded to. What the country really needs is the latter kind of voluntary agencies that

are free from any kind of pressures. However, their number is small. And the reason is not far to seek.

A veritable risk

The truth is that if we really want to do something for the have-nots, they should organise themselves. Care has to be taken here against one important factor. That is, if the voluntary agencies restrict their activities only to the backward and depressed classes, an imbalance will be created in the society. What about the left-out? The truth is that the local administration always favours those who remain outside the purview of the voluntary agencies. On the other hand, if we have agencies that embrace people from all sections of the society, then welfare of the depressed gets relegated. The deprived do not get opportunity to think and work for themselves. Sooner or later, the voluntary agencies become ineffective and serve no purpose. The fact is that most of the programmes of voluntary agencies are not producing the desired results. It can be stated that as at present, to depend on voluntary agencies alone for the implementation of development plans and projects enunciated by the Government, would be running a veritable risk.

Now, when the development machinery of the Government is unable to deliver goods and the voluntary agencies are not strong enough to ensure social justice to the poor, what do we do?

A workable solution

In the present situation, no regional voluntary agency can hope to succeed unless it comprises the depressed classes, the scheduled castes and tribes, and also the people belonging to other sections of the society. For workability, sub-committees or cells should be formed on the basis of land holdings, income, education, housing etc. These small committees should be free to prepare and implement their own plans and programmes. At the apex, these working groups would sit together and review the programmes affecting the entire area of their work. Another fact that we have to keep in mind is that as far as dispensation of justice to the poor is concerned, in the present political, economical and social context, involvement of the local people will be more helpful than the local administration.

Such a development project is already being carried out successfully by People's Action for Development (India) of the Ministry of Rural Development, Government of India, in some selected villages of Bihar. Here, the rural people have been organised into a society, registered under the Societies Act. Separate executive committees have been formed to look after various aspects of the entire programme. Only those who are connected with the project can be members of the committees. These development projects are implemented in cooperation with the nationalised banks though these could be carried out on their own.

Now, this solution, though it sounds quite workable, encounters hurdles. The influential and the anti-social elements do their best to put obstacles in the development of the poor. Of course, such elements have patrons in places of power. Another hurdle is that this kind of people ordinarily do not repay the bank loans intentionally, though they have the capacity to do so, just because they have the right kind of equation with the local administration. This affects the morale of the honest and disciplined loanees too. Despite some such pitfalls, these voluntary agencies have proved successful.

In order to run a development project successfully, we need a worker who can organise people and motivate the local leadership. This is the central point of my suggestion. I think that having spirited development volunteers is much more important than establishing voluntary agencies.

As stated earlier, the rural poor are totally disappointed with the prevailing social situation. They don't feel that the present administrative set-up or their well-off brethren are coming forward ungrudingly to help them. It would be necessary to organise these totally disgruntled people and to instil in them self-confidence and mutual cooperation.

How should we go about to look for motivated development volunteers and to ensure for them a reasonable standard of living? India has much more volunteers as compared to other countries. In spite of the prolonged alien rule, the Indian culture has not lost its hold on its masses. The fact is that we are trying to locate volunteers by formal and administrative methods, while the spirited ones will be found through pursuasive devices like personal contact.

"Another fact that we have to keep in mind is that as far as dispensation of justice to the poor is concerned in the present political, economic and social context, involvement of the local people will be more helpful than the local administration."

Voluntary agencies should be given a pride of place in the implementation of development plans. Government should recognise only such voluntary agencies whose office-bearers, members and executive committees are those who are actively involved in development work. Voluntary agencies should be secular and non-political in character.

If the Government, as a matter of policy, decides that voluntray organisations should be in-charge of implementation of development programmes, it will be necessary for the Government to select and post only such officials, at least at the district level, who are convinced of the usefulness of voluntary agencies. Care should be taken for the selection of volunteers, their training and creating in them a sense of live-wire leadership rather than merely the establishment of voluntary agencies. Finally, only those voluntary agencies that are engaged in development work should be selected and given charge of the implementation of the development plans. Any lapse in this regard would defeat the very purpose. It will also be necessary to appoint an officer at the district level to keep a watch and monitor the progress of activities of the voluntary agencies. □

They do fill the slot!

Nitish De

Endorsing the expansionist approach to planing, the author argues that diverse institutional mechanisms are necessary to deal with societal realities which are complex in all their dimensions. Simply stated, the law of requisite variety demands that diversity is dealt with by diverse responses. Under this premise, the voluntary organisations with proven records of service-oriented achievements, and having necessary characteristics do have a role in the development process, he affirms.

THE DIMENSIONS OF DEVELOPMENT tasks in India are such that no reductionist approach to overcoming under-development, however, rational or neat it may appear on paper, will suffice. It is being increasingly appreciated that we need expansionist approach to planning. Several strategies may simultaneously be adopted which at a superficial level may appear to be a basket of ad-hocism or else asymmetrical or non-complementary. Not that these apprehensions are necessarily without basis. Our preference for several strategies, despite the apprehensions, is based on the premise that when societal realities are complex in all their dimensions, social, political, economic and cultural, that to deal with such diverse variety it is necessary to devise diverse institutional mechanisms. Simply stated, the law of requisite variety demands that diversity is dealt with by diverse responses.

False dichotomy

We also visualise that the dichotomy between the planning process and the implementation process is a futile concept. The structure of our behaviour while involved in the development drama is considerably influenced by our mental map that advocates many functional divisions of work allocated to different agencies and functionaries. We know what it means : delays, differences, circular movement of papers, interminable co-ordination meetings, all leading to the conclusion that we plan well and they implement badly. Our plea is that these two processes can be brought closer not by any mechanistic control or feedback system but by encouraging persons-in-action to operate so closely that the distinction between thinking and doing gets blurred.

On the strength of these two premises, we shall examine the possible role of voluntary agencies (hereafter we shall use the term NGOs) in the development process.

Who should be asked ?

Accepting the fact that there are different types of NGOs with varied objectives, programmes and organisational frame-work, we shall confine ourselves to those which reflect the following characteristics :

(a) Confined to the grass-roots in that the membership base is the peripheral population—urban and rural ;

(b) Leadership of the NGOs may be provided by "outsiders" who have, however, earned the status of the "insiders". This is not an essential prerequisite. But it has happened to several successful NGOs. Bunker Roy, Anil Sadgopal, Ela Bhatt in India and Zafrulla Chowdhary in Bangladesh are some examples. Shibu Soren of Jharkhand Mukti Morcha has indeed been an "insider" from the beginning ;

(c) The mission of NGO is to bring the fruits of different development schemes to the poorer strata of the society and to ensure that they can absorb and retain the benefits. Put it another way, the NGOs are target-group based and they are at the same time a *delivery system* and an effective *absorbitive system* so that the poor can improve their own socio-economic status to a level where they may be called as "above-marginal" human beings ;

TESTING VOLUNTARY AGENCIES

(d) Such NGOs will seek to aim at self-reliance so that at some point of time, to be built into the corporate plan, the members, individually and collectively, can dispense with the propensity of *dependency development*. In other words, the NGOs seek to become mobile corporations in that once they have been able to assist a target group to become reasonably autonomous in their socio-economic status, they move on to another target group which is still underprivileged. In socio-spatial terms, these NGOs are dynamic.

(e) NGOs' organisational structure and style of operation are such that leaders-members distance is minimal and that democratic-participative decision-making is rooted to the ground. Concrete issues are discussed and decided with high degree of participation and commitment. The emphasis is more on action-based forums than on representative bodies. Planning and implementing become proximate.

(f) NGOs will essentially be organisations whose "inner development" is consonant with the objectives they seek to achieve. Active members will see themselves as continuing learners from colleagues and environmental cues. The culture of learning will ensure that they are "techno-service" types of organisations. NGOs will be task-oriented which demands knowledge and skills. They will be equally service-oriented.

We have listed some of the items which we believe that NGOs should possess or involved in the development programmes should aim at acquiring. One may argue that there may not be very many such NGOs in the country. Some States may be better placed than others. Does it not create a discriminatory situation if the planning strategy includes a significant role for NGOs?

As the situation exists in the country, an apprehension of this sort is not unjustified. At the same time, let us also recognise the fact that wherever the right type of NGOs exist with proven records of service-oriented achievements there is no justification for denying them a developmental role. What SEWA had done in Ahmedabad is something that a government agency might not have been able to do. What the Tagore Society for Rural Development is doing in twenty-seven villages in five islands of the Sunderban area in West Bengal is an unlikely proposition for a bureaucratic-hierarchic state agency. Cost-effectiveness and target-group-based benefits require a service orientation which cannot be guaranteed by all subordinate field agencies of the government. Reasons are many into which we need not go. So, we suggest that the NGOs which are equipped to handle projects and programmes which are primarily oriented towards the marginal groups should be mobilised in the development efforts.

As a matter of fact, one major advantage of utilising the NGOs is their ability to organise and mobilise the marginal population whose numbers run into millions. There are instances of successful cases from different parts of the world where grass-roots-based NGOs have been able to mobilise and organise the poorer strata of society to reap the benefits of development schemes.

How should it be ?

In overcoming the traditional conflicts, for which standard explanations are often offered, between planning and implementation, one task for *some* government functionaries who can be classified as developer-entrepreneur type of administrative leaders is to actively encourage, support and sustain the type of NGOs we have described. Because of "developer" characteristics they will act as sustainers rather than as controllers. They will not grab the NGOs. If anything they will walk on two feet rooted on solid ground, sensitise the government machinery and utilise the NGOs where mobilising and organising are essential steps to bolster the sustaining power of the poor. Such example are now few.

Secondly, these developer-entrepreneur government functionaries will utilise the progressive components of laws, rules and regulations to expedite the government delivery system so that the NGOs can respond to the member-beneficiaries needs with alacrity.

"NGOs' organisational structure and style of operation are such that leaders-members distance is minimal and that democratic participative decision making is rooted to the grounds. Concrete issues are discussed and decided with high degree of participation and commitment".

Thirdly, the developer leaders will act as counsellers to the NGOs, a gesture which will reduce the distance between them and the NGOs.

Fourthly, the NGOs will neutralise, partially at least, the role of the "political brokers" whose profession is to act as "middleman" between government agencies and the potential beneficiaries for monetary gains and political power.

Fifthly, NGOs can persuade the government agencies to operate in the manner of an open system in the matter of development aid. There are experiences in India that with the existence of active NGOs it has been possible to identify the genuine beneficiaries under several IRD schemes more accurately.

Lastly, development schemes for the poor are not a matter of charity. It is their due and indeed an undeniable obligation of a democratic state. NGOs as people's organisations do natural fit into the democratic framework where the development process can be accelerated with and through the NGOs. □

Let's first understand them!

J. B. Singh

The author pleads for better understanding of the nature and exact role of voluntary agencies, which, he regrets, are just clubbed together by their critics to run down the movement as such. These organisations, he maintains, differ in their background, ideology, motivation, legal status, level of operation, work programmes, funding sources, governmental control and thus naturally their performance also differs.

THE ROLE AND FUNCTION OF voluntary organisations in development, particularly in implementing of poverty alleviation programmes, is being increasingly appreciated. The Prime Minister's directive to Chief Ministers in October 1982 to involve voluntary organisations in development by forming Consultative Groups, appointment of a Director of Social Work Organisation as Honorary Consultant in the Planning Commission, revival and energisation of People's Action for Development (India), setting up of several organisations such as Bio-Energy Society of India, Society for Promotion of Waste Land Development, Council for Advancement of Rural Technology and similar other bodies are all signs of change for better in official attitude towards voluntary organisations.

The proposed inclusion of a special chapter on voluntary organisations in Seventh Five Year Plan documents indicates seriousness with which the policy makers today view contributions of voluntary organisations in development. However, the question is whether the present appreciation and seriousness, bordering on euphoria, about voluntary organisations is genuine and accepted in all quarters or going to be a populist short-lived slogan like many others in the past.

The questions asked !

There are people who ask questions such as :

(a) How voluntary are voluntary organisations ?

(b) How are voluntary bodies, though well run paying high salary to its staff, different from any government department or a business house establishment ?

(c) How independent are voluntary bodies receiving grants from governments and foreign donor agencies ?

(d) Do not the voluntary organisations have motives behind their apparent charity, service, welfare activities ? Are they not engaged in accelerating the forces of destabilisation !

(e) How can voluntary bodies work in most difficult situations without any interest or motives of their own ?

(f) Do not the voluntary bodies serve the interest of local politicians, may be from party in power or from opposition ?

(g) Are the voluntary bodies really needed by the people they profess to serve ? Do they really involve people in decision -making, implementation and evaluation of programmes or do they project themselves as self-styled protectors of people's interests ? Is it not that working in voluntary bodies is becoming a profession by itself ?

(h) Are not the voluntary bodies another tier between the people and the administration. How are their workers different from those in government departments. Are the voluntary bodies able to withdraw or do they also become bases of vested interests ?

(i) Will the new strategy to improve current delivery system by involving voluntary agencies succeed or end up as yet another source of disappointment ?

TESTING VOLUNTARY AGENCIES

(j) Can voluntary agencies do the job ? Are they really well organised and cut out for the role ? Just because there do exist some well run voluntary bodies, can one rely on the system as such ?

(k) Why could voluntary bodies in pre-independence era raise resources from public and now are dependent on government grants and subsidies. Why are dedication, commitment, sense of sacrifice fading out ?

And the answer !

The above are only examples and not an exhaustive list of questions generally asked about and from voluntary organisations. Most of those questions are reflections of doubts in the minds of questioners about voluntary organisations mainly because of ignorance. But these doubts also appear because of conceptual confusion about voluntary organisations. A variety of organisations are clubbed together and called 'Voluntary Organisations'. The organisations differ in their background, ideology, motivation, legal status, level of operation, work programmes, funding, sources, government control, etc. Naturally their performance, capability, acceptance also varies from organisation to organisation. On the basis of experiences good or bad with one organisation, there is a tendency to attribute opinions about all the voluntary organisations. This tantamounts to 'sweeping all organisations with one broom'. This is neither correct nor fair.

"Most of these questions are reflections of doubts in the minds of questioners about voluntary organisations mainly because of ignorance. But these doubts also appear because of conceptual confusion about voluntary organisations."

As the voluntary organisations are groupings of human beings all the human virtues and vices are reflected in them as well. To expect exemplary behaviour from all the organisations is not practical. Similarly, to say that all voluntary organisations are good for nothing, irresponsible or have doubtful intentions is incorrect, rather mischievous. In fact, the term "Voluntary Organisation" describes a mix of good and bad, capable or incapable, dependable or undependable, dependent or independent organisations.

Their classification

To have a clear understanding of working of voluntary organisations as a group we may have to classify them according to approaches they follow. These are as under :

1. **Charity**—Giving food, clothing, medicine, alms in cash and kind, land, buildings, etc.
2. **Welfare**—Providing facilities for education, health, drinking water, roads, communication, etc.
3. **Relief**—Responding to call of duties during natural calamities like floods, drought, earthquakes, and man made calamities like refugee influx, ravages of war, etc.
4. **Rehabilitation**—Continuing and follow-up of the work in areas struck by calamities and starting activities durable in nature.
5. **Services**—Building up infrastructure in depressed backward areas. Tractor hiring services, providing or facilitating credit, supply of seeds, fertilisers, technical know-how, etc.
6. **Development of socio-economic environment, around human beings**—Socio-economic transformation on the area basis—covering all the people in a given area or concentrating only on a particular group of people normally neglected and in need of help.
7. **Development of human beings**—Concious raising, awakening, conscientising, organising, recording of priorities to suit social justice; redeeming the past and opening doors to opportunities to the oppressed and exploited.

The above approaches, put together, cover a very wide spectrum of voluntary action. There is no set rule to determine which of the above approaches will be desirable or effective in a given situation. It depends on the corporate policy of the organisation; workers motivation and enlightenment; and the nature of the response of the people served. However it can generally be said that the curve of acceptability of various approaches in official circle moves in descending order (1 to 7)—charity, welfare, relief, rehabilitation, services, development of socio-economic environment around human beings and development of human beings. Approaches 1 to 6 are related to delivery system, whereas approach 7 basically refers to the 'receiving mechanism'. It is here that voluntary organisations are in a stronger position and it is here that clash of interests is greatest giving rise to much misunderstanding.

And the strategies !

Taking into account the above approaches and the phases in which voluntary action has grown we can identify four clear cut strategies they follow. These are:—

Strategy I—Simple charity, supplementing welfarism of the State.

Strategy II—Encouraging people's participation and in implementing programmes launched by the Government for larger benefit of the community or village.

Strategy III—Involving people in programme planning, raising resources, implementing activities and sharing fruits of development.

Strategy IV—Conscientising and organising people enabling them to demand and under-

take planning and implementation of development programmes beneficial to them.

Of the above strategies, the first one is most acceptable to power structure but suffers from some basic maladies, such as promoting inferiority complex, feeling of helplessness, and "giver and receiver" relationship. In short, it is paternalistic in nature and causes human degradation—not uplift of human spirit.

The second strategy of voluntary action, promoting people's participation in plans and programmes planned by Government, is also acceptable but tends to benefit selected few. Large majority of the people are left untouched or are deprived of fruits of development. Thus the gap between the rich and the poor widens. It also gives rise to a new class of people called "vested interest" who are ever ready to grab any advantage coming out of development programmes. The experience has shown that in many cases the poor people, who are enthusiastic in the beginning, become indifferent and lose interest in activities later.

The choice before voluntary organisations is, therefore, limited to the last two strategies which most of them are following with varying degrees of success. Of these the chosen strategy depends on the ideology, motivation, capability of the organisation, experience of the workers and the actual situation in a given area.

The essential requirements !

Having discussed approaches and strategies followed by voluntary organisations it would be worthwhile to discuss basic and essential requirements of a voluntary organisation. An organisation must have:

1. An ideal|ideology|inspiration ; (2) A written constitution, corporate and organisational structure; and legal status; 3. Autonomy in functioning within constitutional limits; 4. Flexibility in approach within limits of announced objectives; 5. Freedom of action in the best interest of people served, 6. A clearly defined programme of action adjusted to local needs and available resources; 7. A dedicated, committed band of workers; 8. Ability to mobilise resources locally or from outside, 9. A well organised accounting system duly audited by a firm of Chartered Accountants; and 10. A continuous system of evaluation of performance in relation to set objectives.

The above are basic and essential requirements which most of the voluntary organisations like to fulfil, though admittedly not all of them are able to do so. Before independence the government's attitude towards voluntary organisations, though non-supportive, was not hostile. After independence all the fields, from charity to development, have been covered by government programmes. A large number of social welfare organisations, finding easy access to government resources, prefer becoming grant receiving organisations. Their representatives depend more on contacts in corridors of power and neglect the people whose power they had earlier relied on. In this situation the voluntary character of such organisations is questioned.

Just supportive role !

To expect voluntary organisations to replace even partly, official machinery engaged in development is expecting too much from them. At best they can play a supportive and complimentary role. They can set examples, can be path finders, can be eyes and ears of the people they serve, can question claims of achievements of authorities, and can demand what is needed in the best interest of the people, particularly poor people. The contribution of voluntary organisations can be like salt in the soup. If there is too much of voluntary action, it may spoil the taste. Similarly, if it is too little, it will in a democratic set-up, render the development work tasteless. This has to be understood very clearly. The Government organisations must be prepared to accept this limited role of voluntary organisations and sympathetically promote voluntary action. The voluntary organisations *also have to realise that the government is the main* channel and instrument of development and understand that their role and function in development though marginal, is very important.

Whereas present recognition of voluntary organisations—their versatility, flexibility, dedication to cause of poor—is praiseworthy, it places very heavy responsibility on the organisations themselves. They have to set high standards of moral and ethical behaviour. To ensure this, something like Press Commission, Institute of Chartered Accountants, Bar Councils, Indian Medical Association, a "National Council of Voluntary Organisations" has to be set up by the voluntary organisations themselves. The voluntary organisations have to separate political action from a selfless constructive programme. They should not intermingle the two. They have also to keep away from those who are active in party politics.

The Government should acknowledge that voluntarism blooms in its own culture and any imposition or tinkering will be non-productive. To make this point clear, Maharashtra Government's Bill providing for appointment of three Advisers on Medical Trusts,

"Similarly, to say that all voluntary organisations are good for nothing, irresponsible or have doubtful intentions is incorrect, rather mischievous. In fact, the term "Voluntary Organisation" describes a mix-up of good and bad, capable or incapable, dependable or undependable, dependent or independent organisations."

Khadi and Village Industries Commission and for change in constitution of Gandhi Ashrams, withdrawal of tax concessions Under 35CC and 35CCA, and making the income of voluntary organisations from their activities taxable are a few examples of government's contradictory stand on voluntarism and voluntary organisations. If only the spirit of voluntarism in voluntary organisations could be preserved in our country, the voluntary organisations can do their job. □□

They do have a role to play !

Bikram Sarkar

The anti-poverty programmes under the Plans provide a definite role for voluntary agencies, says the author, and adds, though good voluntary agencies are not very many to cover all backward rural areas, the government too, as things are, has a limited reach. In such situation, the author feels, there are ample opportunities for the both to divide among themselves the area of activities especially in the context of anti-poverty programmes.

NON-GOVERNMENTAL VOLUNTARY ORGANISATIONS have played an important role in providing welfare services for the vulnerable sections of the society—the poor, the wretched, the unprivileged and the deprived. The Reform Movement of the nineteenth century created in its trail quite a number of voluntary organisations particularly for the welfare of the women, children and also for the down-trodden. Even today organisations working for the welfare of women and children form a sizeable portion of the total number of organisations in social welfare. While in 1953, the agencies working for women and children formed a little over 50 per cent of the total number of agencies in the field of social welfare, in 1980 they accounted for about 70 per cent of the total number of agencies.

What is service ?

Swami Sambudhananda in his article "Swami Vivekananda's Ideal of Renunciation and Service" contributed in the Swami Vivekananda Centenary Memorial Volume defines "service" as the medium in and through which renunciation manifests itself. In fact renunciation is the soul, and service is the body. None can realise what renunciation is until and unless it finds its expression in and through selfless service. He continues to say that service is not an act of charity : it is in reality an act of love, pure and selfless, done in disregard of consequences. Service can be physical or material, intellectual or educational, social or national and moral or religious. The present day social service movement, as inaugurated by the great and illustrious patriot—

TESTING VOLUNTARY AGENCIES

saint of India, Swami Vivekananda the founder of the order of the Ramakrishna Math and Mission, marks an epoch in the history of our country, working as it does through its innumerable centres.

Upanished declares; ("May your Mother be God to you; May your Father be an object of worship to you; May your Preceptor by an object of adoration to you.")

"Service is the medium in and through which renunciation manifests itself. In fact renunciation is the soul, and service is the body. None can realise what renunciation is until and unless it finds its expression in and through selfless service."

Swami Vivekananda added to this list of the worshipped :

"May the suffering millions be the object of worship to you, May the illiterate masses be the object of reverential service to you.")

Swami Vivekananda asserted repeatedly :

> **"I consider that the great national sin is the neglect of the masses, and that is one of the causes of our downfall."**

Swami Vivekananda reminds all of the vow of service of masses as a divine duty:

> "Where should you go to seek God; Are not all the poor, the miserable, the weak, Gods? Why not worship them first?"

And what the Plans say . . .

The service by voluntary organisations has its origin in such lofty ideals Over the years and particularly after the Independence, there is a phenomenal increase in the number of voluntary agencies in the country and they expanded their activities to cover quite a vast field of social welfare. These social welfare programmes are undertaken by them not only with their own resources but also with the resources that are made available by the State. Provision of welfare services since the beginning of the First Five Year Plan has been a cooperative venture between the state and the voluntary organisations.

In the First Five Year Plan document, it is stated:

> "A major responsibility for organising activities in different fields of social welfare like the welfare of women and children, social education, community development etc. falls naturally on private voluntary agencies. These private agencies have long been working in their own humble way and without adequate aid for the achievement of their objectives with their own leadership, organisation and resources. Any plan for social and economic regeneration should take into account the services rendered by these agencies and the state should give them a maximum cooperation in strengthening their efforts. Public cooperation through voluntary service organisations is capable of yielding valuable results in channelling private efforts for the promotion of social welfare."

In the Third Five Year Plan, the Planning Commission reiterated the importance of the role of voluntary agencies for the successful implementation of our Plans. It stated:

> "For a developing country which cherishes its democratic value, the people's part in the attainment of these objectives is of supreme importance. The peaceful struggle for freedom and tradition of constructive work associated with it had marked out for the people a decisive role in the tasks of planned development initiated ten years ago. It is evident, however, that the possibilities of full involvement of the people in the processes of change and growth are not being realised to a sufficient degree."

While, thus discussing the people's participation on an ideological level, it is at the same time necessary to give it a concrete shape capable of being translated into reality. The said plan document continues to say:

> "In the activities in which official agencies are engaged, there is a large sphere in which the cooperation of the people can be sought and secured to achieve a degree of success which would otherwise not be possible. These tasks should be identified precisely and the obligations and responsibilities of the people in relation thereto made known clearly. The concept of public cooperation is related in its wider aspect to the much larger sphere of voluntary action in which the initiative and organisational responsibility rest completely with the people and their leaders. So vast are the unsatisfied needs of the people that all the investments in the public and private sectors together can, at this stage, only make a limited provision for them."

Better suited for the cause

Thus the Government in the first two decades after Independence adopted policy of working with voluntary organisations for promoting the welfare of the people. These organisations were considered as more appropriate instruments for carrying out the task of reaching the people because of their characteristics of flexibility, speed, humane-ness and innovativeness.

"Service is not an act of charity : it is in reality an act of love, pure and selfless, done in disregard of consequences. Service can be physical or material, intellectual or educational, social or national and moral or religious."

Properly organised voluntary effort may go far towards augmenting the facilities available to the community for helping the weakest and the most needed to a somewhat better life. It is through the quite influence of voluntary workers, silently engaged in acts of selfless service into which a large section of the community is drawn, that the voice of reason can prevail. It is because of flexibility of the voluntary agencies that they can also go in search of new needs, new areas, bring to light the hitherto suppressed social evils and give attention to the unprivileged and unattended. They can and should function as reconnaissance squads. They can be fore-runners of change and anticipate and take action to make the transition a little less painful.

The grants-in-aid !

The government recognised the importance of the role of voluntary agencies and also of the contribution made by them in the field of social welfare. It also took certain steps to strengthen their efforts. The Government initiated the services provided by voluntary agencies so that the programmes undertaken by the Government should be effectively supplemented. The grants-in-aid programmes were evolved for providing certain measure of stability to voluntary organisations for maintaining certain functional level of organisational and financial efficiency

In the Sixth Five Year Plan document the chapter on "Social Welfare" starts with these words:

> "Social welfare programmes aim at enabling the deprived sections of the population to overcome their social, economic or physical handicaps and improve their quality of life. They supplement the developmental programmes in general in dealing with the problems of poverty and unemployment and are meant in particular to assist the most disadvantaged groups below the poverty line, especially children from poor families, women, the handicapped and the infirm."

It has also made a broad review of the effort made during the earlier Plan periods. The Sixth Plan observed:

> "During the last three decades, social welfare services have grown both in volume and in range and the outlays have also increased considerably from a mere Rs. 4 crores in the First Plan to Rs. 83 crores in the Fifth Plan. The administrative machinery has also expanded and there is a better awareness of the developmental concept of social welfare, its linkages with other sectors of development and its role in raising the levels of the living of the most vulnerable groups. A large number of voluntary organisations are now being assisted to undertake social welfare programmes in different parts of the country. In spite of these achievements, certain deficiencies in the programme, planning and implementation need to be remedied in order that effectiveness of social welfare schemes can be enhanced. There has been a tendency to depend on schematic patterns in the implementation of the schemes by Government or voluntary organisations leaving little room for flexibility or ability to respond to the requirements and variations in local situations."

The study, its findings !

A study has been made about the unevenness of the growth of voluntary organisations in different parts of the country. The study has come to the conclusion that (1) in so far as the grants-in-aid programmes are concerned, the Central funds have flowed more to the areas already having strong administrative machinery and infrastructure for utilisation for fund and the remote and backward areas have been left out more or less untouched; (2) another lacuna that has been identified is the non-materialisation of the linkage of social welfare programmes with economic programmes. Many economic development projects have been launched particularly in rural areas without proper consideration of the social impact or the social service needs of women and children; and (3) monitoring of programme performance of even important schemes continues to be in terms of financial achievements rather than physical performance related to the objectives of these schemes.

Impact of Government grants

As I have already stated earlier, the grants-in-aid system has been in operation for almost three decades It has had certain impact on the growth and development of voluntary organisations. The main purpose of the grants-in-aid system was to promote voluntary effort and bring the voluntary organisations closer to the government so that the programmes could be implemented in a spirit of cooperation and a feeling of partnership.

The opinions of the voluntary organisations themselves on the impact of this system have been very varied. According to a study made by National Institute of Public Cooperation and Child Development (NIPCCD) in respect of 151 voluntary organisations, 53 among them expressed happiness on the working of the grants-in-aid system and observed that it has a positive impact on the effort of the voluntary agencies in arranging service to the people. Forty-four others were of the view that the impact has been on the whole negative ; thirty-eight others were of the opinion that it had a positive impact in respect of only a limited activities and negative impact on others ; sixteen organisations had no comments to make.

According to one view, the greatest advantage of getting the grants is that it has enabled the organisation to plan and regulate their proposals and services. In absence of such grants, a voluntary organisation would have faced certain amount of uncertainty regarding the availability of resources. Raising of fund from the public demands time and energy of the organisations. Apart from anything else this provides a good point of contact between the voluntary organisations and the state. As one of the organisations put it : "We have an opportunity to

be in touch with them (Governments) and they have an opportunity to know what is happening in the field and how people react to their schemes."

And NIRD findings !

Those who felt financial assistance from the Government did not have the positive impact on the promotion of voluntary effort, have opined that the grants were given only to the schemes approved by the Government. The result is that the schematic pattern of assistance and the structured character of schemes compelled a large number of organisations to follow a set pattern of Government approved schemes. This, in turn, takes away the initiative to

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"With the adoption of new strategies for the economic and educational development of the Scheduled Castes and Scheduled Tribes during the Sixth Plan it has now become more important to involve voluntary organisations fully in this gigantic task."

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think of newer projects. Dr. S. K. Rau, the then Director General, National Institute of Rural Development, Hyderabad, in his key-note address delivered at the National Seminar on Role of Voluntary Agencies in Rural Development at New Delhi, August 25-27, 1981, sums up the pros and cons of the Grants-in-aid Schemes in the following words :

> "The source of funding naturally has its own influence. It is common to hear from voluntary organisations that any financial tie-up with the government is a frustrating experience. The governmental financial procedures could be somewhat exasperating ; even a small grants-in-aid has a great influx of the man-in-audit. The attempt of subordinate government officials to adhere to correctness, sometimes affects the resilience of the programme of the voluntary action and often leads to several frictions on both sides. While voluntary organisations do complain about the unhelpful attitude of the government machinery, malaise lies more in the system. Utilisation of government funds have less fluidity in operations ; that laxity and leakages occur through several channels in administering government funds and not wholly effectual, is however a different matter. The dependency of governmental assistance by voluntary organisations has to take into account the rigours which such a tie-up implies. It is easy to argue that these should completely be abolished. But from the past experience the effect of such an argument has not been much. Cases where voluntary organisations themselves have not been able to properly utilise the funds or give the required completion certificates are also numerous."

Working as partners !

Though removal of poverty has been an important objective of planning in India, the condition of the poor especially in the rural areas who form the hard-core of people below the poverty line continues to be very appalling. The haitus between the expectation and achievement in this particular field is often attributed to "leakages in the delivery system and ineffective administration". Poverty in India largely means rural poverty. About 50 per cent of the India's population live below the poverty line and of this more than 85 per cent live in villages. And who are the people below the poverty line ? The landless agricultural labourers and rural artisans in general and the Scheduled Castes and Scheduled Tribes in particular. Therefore, any anti-poverty programme is a programme for development of these groups of poor among the population. And it is in this area that the voluntary organisations should come forward in a big way to strengthen the hands of the government by cooperating with the state machinery and to take up relevant programmes for the socio-economic development of these groups. With the adoption of new strategies for the economic and educational development of the Scheduled Castes and Scheduled Tribes during the Sixth Plan it has now become more important to involve voluntary organisations fully in this gigantic task. Now voluntary organisations are gradually coming forward to take up various developmental programmes for the Schedules Castes and Scheduled Tribes. The decision has to be taken about the type of programmes to be entrusted to such organisations during the Seventh Plan so that there may be a clear cut demarcation of areas of operation between the programmes undertaken by the State Governments and those entrusted to the voluntary organisations so that there may not be any duplication of work. So far most of these organisations were engaged in social and educational programmes. During the Sixth Plan, some organisations like the Social Work and Research Centre (SWRC), Tilonia, etc. came forward to take up economic development programmes though in a very small scale. The scheme of installation of hand-pumps in the Scheduled Castes bastis by SWRC, Tilonia has been quite encouraging. In SWRC, the leadership has been provided by young professionals in various fields. This organisation starts with the identification of felt-needs of the poor and then launches relevant programme, the effectiveness of which will be measured by the volunteers by working with the poor. The goal is to ensure that these poor can get economic and social independence.

Such voluntary organisations are not many, nor do they cover the entire backward rural areas of the country. But at the same time, it has also to be accepted that the Government organisations could not reach these areas completely. In such a situation, there are ample opportunities for both the voluntary organisations and the Government agencies to divide among themselves the areas of activities especially in the context of anti-poverty programmes. □

You just can't do without them !

Mahasveta Devi

Narrating, in detail, her experiences of working among the Lodha-Kheria tribes of Midnapur and Purulia in West Bengal, the author castigates the working of the planners and bureaucrats in the sphere of alleviating rural poverty and strongly pleads for actively involving voluntary agencies at the grassroot level to help the poor, who, she maintains, have already suffered much at the hands of selfish bureaucracy.

WITH OTHERS, I HAD TRIED to believe once, that India's Independence would not totally fail the poor of India. I was twentyone in 1947. In 1984 I can say that for the poor of India national independence, so many plans, programmes, projects and acts in parliament have come to nothingness. The question is have we reached a point of no return, or is there any hope ? I have also found that the poor of India may be mostly illiterate but they are no fools. Perhaps now they realise that keeping them in eternal poverty is very much a part of a pattern beyond the grasp of their comprehension. People's poverty is the basis on which projects can be made, plans can be sanctioned, *pundits* can enter as consultants and money inflow can be guaranteed with an eye to see that nothing reaches the direct beneficiary. They tell me so in their language which is often unsavoury but true.

This Panchayati system !

The realisation must have come to those in power that nothing was really happening. The administrative machinery had failed though wellmeaning administrative officers are still found. They are usually treated like untrustworthies and are removed from their posts at the first chance. Perhaps, in desperation, the panchayati system was revived and in West Bengal at least, the panchayats are the most powerful bodies in a district. I should say, in all honesty, that the panchayati system in my state has, perhaps shown better performance here and there, in fragments, than in other states. Ours too is a history of little performance and I shudder to think of the other states. This panchayati system, in our state too, has become an extension of the administrative hierachy and has become a strong nucleus of rural power. The political parties have gained. The people have suffered.

I should make it clear here that I have not been close to any voluntary agency or organisation working among the poor for the simple reason that I have had direct connection with the poor and the tribals, mainly of Midnapur and Purulia. I am also connected with many organisations at the grassroot level, but in order to elaborate my point I will dwell upon only a few.

The Lodha Kheria tribes

Since my contact is mostly at the grassroot level, I will talk of those only. First, it has to be understood why minority tribes like Lodha-Shavaras and Kheria-Shavaras of West Bengal have formed organisations of their own. These two are minority tribes and though in the census, the Lodha-Kheria names go together, Kheria are even more neglected than the Lodhas. Because, in West Bengal, for reasons beyond our comprehension, the Lodhas, Birhors and Totos are classified as specially protected tribes. The Kherias are denied this privilege existing on paper alone. The Lodhas and Kherias have these in common with the Birhors and Pahariyas, their life pattern has remained forest-centred for too long and they have taken to cultivation later than the majority tribes. Also, they have led a parallel existence with the mainstream, and the majority tribes have been more exposed to the wily and devious ways of the mainstream.

The Lodhas of Midnapur and the Kherias of Purulia, once branded as criminal tribes, denotified later, are still treated by the society, administration and the police as criminals. No one has cared to check how many Kherias are perishing in the prisons of West Bengal and Bihar for which crime they know not. It is needless to say that the tribals, especially be-

TESTING VOLUNTARY AGENCIES

longing to the minority groups, have long been denied basic human rights. Lodhas and Kherias have a precarious existence since influential village and town worthies keep a section of them engaged in thievery and robbery. The Lodhas become news when they are killed and soon they are forgotten. So many Lodha killings and Kheria houndings by the police and forest personnel, but till today no one has ever touched the rich and power-wielding receivers of stolen goods. The core of the problem has been allowed to remain active.

"I have found that the poor of India may be mostly illiterate but they are no fools. Perhaps now they realise that keeping them in eternal poverty is very much a part of a pattern beyond the grasp of their comprehension."

It is very akin to the declared forest policy of the government. The hand that fells the tree does not destroy the forest belts fast dwindling. The timber merchants, forest contractors, mostly with the connivance of the forest personnel destroy forests and smuggle the timber and forest produce They are allowed to function and flourish at the cost of national wealth. The abominable forest law soon to come has seen that only the poor felling the trees are punished and the real marrauders enjoy immunity

This state of affairs has forced the grassroot people form their own organisations Total apathy of society, government and others has driven people who, in despair, feel their very existence threatened. In fact, they realise, only too well, that Central and State Governments have written them off as expendables The bonded of Palamau, in despair, have formed their own samiti. The same is true of the Lodhas and Kherias of West Bengal. What can these organisations give to the people who form them ? Well, they do not have names like Nilambar and Pitamber (of Palamau), or Sidu and Kanhu (of Santhal Parganas), or Birsa Munda (of Ranchi), centering which they can try to regain their lost identity. These samitis give them a sense of dignity, they cling to these as something their very own. They can try to feel like human beings. This has been my experience and I have seen it with my own eyes.

How and why of it?

Now I will tell first how some of these came to be born and when. Then I will tell what work they can do and what threats they face. Then I will tell why I think that poverty at the grassroot level can still be alleviated if these samitis under various names are taken seriously.

The Palamau Zilla bondhua (bonded) mukti morcha was founded at Semra village under Chainpur P. S. on first of May, 1981 mainly through the effort of the bonded of many villages and the kind participation of a local journalist Rameswaram, and few outsiders like me were spectators. I think that this is the first time even in India the bonded in the agricultural sector took such initiative.

It awes me when I think that the Lodhas of West Bengal had felt desperate enough to form a samiti and have it registered in 1962. It could not function against heavy odds. Between 1979 and 1982 alone, 34 Lodhas were killed. The Lodhas, in desperation revived their samiti and rallied round it. After the 1982 July Lodha killing, the Lodha samiti organised a meeting at the village of Gopali, speakers from villages under nine police stations spoke. They sent me a very well-worded memorandum with mass thumbprints and some signatures. The copy of their open letter to the Chief Minister clearly stated that they refused to live like animals after 35 years of independence.

The Kheria-Shavara samiti was founded in November, 1983 in Maldia village in Purulia. For the first time ever, Kherias from far away villages assembled in thousands. Their demands were very clear. They wanted to live like human beings.

The West Bengal Munda Samaj Sugan Ganthra, a social samiti of the Mundas had been formed in the sixties, But it was registered in 1981.

The samiti's role

What work these samitis can do, and, what have they done? I should make it clear that the poor non-bonded of Palamau consider the zilla morcha as their organisation too. Since abysmal poverty is the bond of unity, the zilla samiti has "mukhias" or representatives in the villages. Over years, they have made lists in hundreds (i) of the bonded with details about names of bonded-owners, of the bonded ones, period of bondage, original debt incurred, sum demanded by the owner for releasing them, generations of bondage; (ii) of the non-bonded with details about landlessness, need for irrigation and drinking water, help for cultivation in the cases of small landholders.

The Lodha-Shavaras have been most forthcoming. They have, with little guidance, made detailed lists about land, income, help received from government, number of children attending schools, number of Lodhas mutilated by angry mob, everything.

The Kherias have been making similar lists plus cases of eviction from forest-land. In number of Kheria villages of Purulia, the small streams remain the sole source of water.

The Munda Ganthra has made lists of the places where irrigation facilities are needed. And, of course, all these samitis have made lists of the educated unemployed with names registered. I have hundreds of names from other tribes, castes, and organisations too but I cannot talk about all of them within the space limit.

"This panchayati system, in our state, too has become an extension of the administrative hierarchy and has become a strong nucleus of rural power. The political parties have gained. The people have suffered."

In each and every case of the three organisations mentioned, the samitis are doing what should have been done by the governments.

In the case of Palamau, the district administration has totally failed in recognising the helpful role the samiti can play and, with the exception of a few kind officials, administrative attitude is openly hostile. So much so that the bonded are threatened with dire consequences for joining the samiti and often are forced to declare that they did not volunteer the information but the samiti people made them do it,

give incorrect information. The bonded and non-bonded of Palamau can only be helped if the samiti's role is recognised and action taken upon after verification of facts. I do not know what is meant by rehabilitation of bonded labour either. Even identification on work has made little progress. What comes first, identification or rehabilitation ? And what is the good of saying that there is no dearth of money for the bonded?

In the case of the Lodha Samiti, relentless effort on their part has yielded a little result. Some Lodhas have found employment. Their one demand was abolition of the contractor-system in development work and give responsibility to the samiti. This has not happened. But West Bengal government, has atleast recognised that the Lodhas are not all criminals and they need development.

Excellent response

In the case of the Kheria samiti, the Kherias have responded with laudable vigour. The Kherias of Purulia have been lucky in having the District Science Centre Officer (the centre being under the Indian National Council of Museums) helping them with low-budget schemes and initiating them into cultivation. With help and guidance from this dedicated officer, they have dug wells, earth-dammed streams, slowly gone for cultivation with seeds and agricultural implements received from the centre. It is, today, true that the Kherias are being less persecuted and hounded. This, in itself, is the greatest achievement of the two Shavara samities, that they have been partially successful in imparting the message to the mainstream that they are not for killing, hounding, being exploited and used for other people's gains.

And their difficulties

What difficulties these samitis in West Bengal (and the other samities unmentioned here) face generally? Tribal organisations are generally held in suspect mainly by the immediate society and the rulers because they might be secessionists. Even the observance of Birsa Munda day by the Mundas was first held as suspect by the political parties. The tribal social welfare organisational meetings are usually attended by police. But slowly these hostilities are lessening. Then, articulating their needs for irrigation, drinking water, residential schools, restoration of alienated tribal land, employment according to declared quota, reveals the apathy of the panchayats from whom these local demands should have come. It is very difficult for tribals to get caste certificates.

Only these samitis can supply the correct data about themselves. They are fully capable of making low-budget schemes as the Lodhas have done themselves. Those have been repeatedly given to the relevant departments, not yielding any result so far.

I know that the basis of the wrong about the poor-question, lies in the attitude. The poor of India, as I have found, may be illiterate or of low-literacy, but they are neither unintelligent nor unrealistic. They know the limit of their capabilities and are perfectly capable of saying just what would benefit them. But in West Bengal, as in India in general, the person supposed to be the beneficiary is never consulted with. The plans are made by pundits who do not have first hand knowledge of the people they are trying to help and once the plan or scheme is made, it is implemented in a manner that leaves the intended beneficiary as deprived as ever.

The right approach !

The approach should be maximum generation of available resources. It is no use thinking that any government will give enough cultivable land to the landless. Homestead land is a must. Then, as the Lodhas have often told me, "Give us few fruit, timbor and fodder yielding trees like mowa, kend papaya, guava, jackfruit etc, and a few goats." In fact, even today, low-budget schemes with consultation with the beneficiary and implementation of the same through the samitis with guidance might help. The crying need of the time is a radical change of outlook. The people for whom this fanfare is must be made involved. How can they become responsible if they are never entrusted with responsibility ? What the Lodhas suggest themselves, is surprisingly not very different from the low budget schemes made by the district science centre of Purulia. With a few fruit trees, a fair number of goats purchased from the local traders (the panchayat given goats often die alarmingly fast) to generate rural economy, fishing tanks and help towards cottage industries, the everdrifting poor can still manage to eat and live. It might, eventually, control the rate of migration in search of work round the year. Exactly where what is needed can only be ascertained from these samitis.

"The plans are made by pundits who do not have first hand knowledge of the people they are trying to help and once the plan or scheme is made, it is implemented in a manner that leaves the intended beneficiary as deprived as ever."

I believe that the time has come the role these grassroot level samitis can play in helping the poor is readily recognised. Then, as far as possible, development work should be entrusted mainly to the various social organisations. The panchayats should allow them to work for their own development. The Kherias have shown that they, with their labour, can get more wells dug than thought possible, within the allotted sum.

The samitis I am interested in and connected with are of the grassroot level people. If they are not made involved, if they are just made to accept what is thrown down to them, it will help neither them nor the society. How are these samitis to work? Who will help them? But recognition of their role is very very urgent, for the unsavoury truth is, be it Palamu Bondhuas, or the twin Shavara tribes of West Bengal, or countless others, the people have found them being desperate for self-preservation after almost four decades of independence and six five-year plans have totally failed them. India lives in villages and not in cities. Why should there be perpetual darkness? □

Says
Bunker Roy:

" For the first time without having been prompted or pushed or prodded any number of senior bureaucrats have started saying in different forums that government alone cannot reach the poor. They alone do not have all the answers. They concede there are alternatives, different methods, approaches and systems for the development of the poor which in a free and democratic society must find expression in the total planning process. The promotion and growth of voluntary agencies is one such expression which government must duly recognise and respect. "

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And so does
Mohit Sen:

" It is wrong and even harmful to rely on voluntary agencies even partially for the implementation of Plan projects, especially directed at the poor millions. This approach of depending to a greater or lesser extent on voluntary agencies is to take a casual or even careless attitude to the Plan, and its implementation. The Plan is, above all, the most important form of intervention, guidance and transformation of our socio-economic system by the State or the government which at most points of time broadly coincides with it. The Plan is very much official business. "

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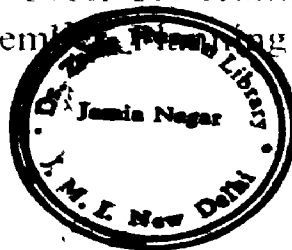
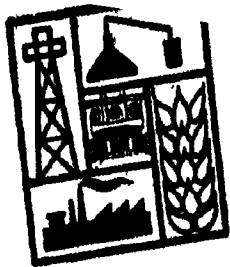
"The magnitude, the extent and the intensity of the rural development and the Minimum Needs Programmes were so massive that it was felt that any organisation interested in the uplift of the masses should be encouraged to contribute its mite for the proper implementation of these programmes. Over the years some of the voluntary agencies themselves have adopted new techniques of having direct interaction with the poverty groups and developed professional expertise for undertaking a large number of rural development programmes as distinguished from the earlier welfare or relief oriented activities."

Prof. CH Hanumantha Rao,
Member, Planning Commission

"The conditions for the growth of a large, healthy voluntary sector will not in fact be allowed to be created by the power-hungry and money-hungry bureaucrats and 'dadas'. Therefore, it can be safely predicted that a truly voluntary sector is not likely to emerge and grow in India. The sector would consist of so-called voluntary agencies which are simply agents of local oligarchy and/or the bureaucracy and remains another channel for the misappropriation of funds."

Prof. Raj Krishna,
former Member, Planning Commission

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Television goes to villages

NEXT ISSUE

Strategy for removal of poverty

Crude production up by more than 12 per cent

CRUDE OIL PRODUCTION in the country during the first half of the current financial year (1984-85) was 13.878 million tonnes marking an increase of 12.3 per cent over the production of 12.363 million tonnes in the corresponding period of 1983-84.

Of the total output, Oil and Natural Gas Commission (ONGC) produced 12.477 million tonnes and Oil India 1.401 million tonnes. ONGC's production was 14.5 per cent more than the figure of April-September period of 1983-84.

Oil production from the Bombay High off shore by ONGC registered a 16.8 per cent increase with 9.479 million tonnes during the April-September period of current financial year compared to 8.113 million tonnes of the corresponding period of last year.

ONGC's onshore production from Gujarat and Assam fields also showed increase of 9.3 per cent and 4.6 per cent respectively compared to the corresponding period 1983-84.

The 12 refineries in the country produced 16.9 million tonnes of petroleum products during the April-September period compared to 17.146 million tonnes during the corresponding period last year. The slight decrease in refinery production was due to the Cochin Refinery shutdown for reconstruction following the fire of March 1984. □

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Our Contributors :

S. L. Khosla—Adviser, (Energy), Planning Commission, New Delhi ; S. K. Ray—a noted author on economic subjects, New Delhi ; Vasant Sathe—Union Minister of Chemicals and Fertilizers, New Delhi ; Mahadev Pakrasi—Correspondent, All India Radio, New Delhi ; Gopal Saksena—a free-lance journalist, New Delhi ; Dr. Rajen Tandon, Professor of Cardiology, All India Institute of Medical Sciences, New Delhi ; and P. R. Dubhashi—Director, Indian Institute of Public Administration, New Delhi.

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Energy strategy in Seventh Plan

S.L. Khosla

The author here deals with the energy scenario in the Seventh Plan and says that apart from accelerated use of conventional energy sources efforts would be stepped up to tap new sources of energy such as biogas, windmill and solar energy. Besides, overall energy intensity of the economy would be reduced and research and development intensified.

THE ENERGY STRATEGY during the Seventh Plan will have to be viewed in the context of the Sixth Plan targets, shortfalls and slippages. The Sixth Plan document indicated accelerated exploitation of domestic conventional energy resources, such as oil, coal, hydro and nuclear power; management of oil demand; energy conservation; exploitation of renewable sources of energy like energy forestry and biogas especially to meet the energy requirements of rural communities; and intensification of research and development in emerging energy technologies.

Review

Before we proceed to the "Approach to the Seventh Plan", we may review as to what has happened since the beginning of the Sixth Plan.

In oil the production has gone up from 11.76 million tonnes in 1979-80 to 26.03 million tonnes in 1983-84. The target for 1984-85 is 29.63 million tonnes. As a result, our self-reliance on indigenous oil production which was only 37 per cent in 1979-80 will increase to about 73 per cent in 1984-85. This has also improved our balance of payments position. As regards coal, the production was 103.95 million tonnes in 1979-80 and is expected to be about 150 million tonnes in 1984-85. The installed capacity in power was 28448 MW at the beginning of the Sixth Plan and is likely to be 42759 MW by the end of the Plan.

Consumption of oil products has increased from 29.88 million tonnes in 1979-80 to 35.60 million tonnes in 1983-84. It is substantially less than the consumption of 45.50 million tonnes in 1984-85 envisaged in the Sixth Plan. Though the demand for coal was expected to be 168 million tonnes in 1984-85 it will now be about 155 million tonnes. There have been shortfalls in the demand for coal by steel, railways, cement and fertilizers. The balance between production and demand will be met from the huge pit-head stocks. The generation of electricity was envisaged in the Sixth Plan at 191 billion units in 1984-85 compared with the actual generation of 112 billion units in 1979-80. Actual generation is now anticipated to be 164 billion units. On an average, there was a shortage of about 10 per cent every year.

Instead of there being acceleration of hydel development, its share in the installed capacity has fallen from 41 per cent in March 1979 to about 33 per cent in 1983-84. The modest target for nuclear power will fall short due to the slippage of the Madras Unit. Its share in the total installed capacity will marginally increase to 2.6 per cent by the end of the Sixth Plan.

In the field of energy conservation, except in the sphere of oil consumption, not much impact could be made on electricity and coal consumption. However, an inter-ministerial group has recently completed a comprehensive study which indicates that with an investment of Rs. 5140 crores on conservation measures, it is possible to save annual expenditure of Rs. 3110 crores. Investment required to produce equivalent energy would be Rs. 7980 crores.

With the establishment of the Commission for alternative sources of energy and the Department of New Sources of Energy, Biogas, Wind Energy, Solar Energy, Geothermal energy, etc. have received concentrated and

Views expressed in the article are of the author and not necessarily of the Planning Commission where he works.

individual attention. As a result 3 lakh units of bio-gas, 1300 windmills and some solar devices are expected to be commissioned during the Sixth Plan.

Just before the beginning of the Sixth Plan, the Planning Commission had with it the Report of the Working Group on Energy Policy. It had envisaged that as compared to the respective shares of electricity, oil and coal at 26.1 per cent, 45.8 per cent and 28.1 per cent in 1975-76, we should achieve in 1982-83 shares of 33.0 per cent for electricity, 42.1 per cent for oil and 24.9 per cent for coal. In actual effect, the shares have been 30.6 per cent for electricity, 48.0 per cent for oil and 21.4 per cent for coal. The dependence on oil has increased.

There are also other important developments during the Sixth Plan which we should take note of. No major discovery of oil was made. As a result the reserves|production ratio has been declining though at present it is still above the reasonable norm of 15 : 1. Despite the oil prices being higher by about 8 per cent than the import parity prices, the consumption is still rising by about 6 per cent per annum as against the average of 4.2 per cent for less developing countries and negative growth of about 3 to 4 per cent for the developed countries. Though coal is the primary source of energy in the country because of its abundant resources, sale of soft coke used in the domestic sector has fallen from 3.70 million tonnes in 1980-81 to about 2.0 million tonnes in 1983-84. The domestic share is about 2 per cent to 3 per cent of the total production as against over 18 per cent in China. The utilisation capacity of the thermal plants has not improved and is expected to average 48 per cent as against the level of 56 per cent achieved earlier in 1976-77. The Committee on Power has suggested that the norm should be 58 per cent.

Energy strategy in Seventh Plan

It is largely against this background, the "Approach to the Seventh Plan" spells out the main thrusts in the energy sector. These are :

(a) To plan for a gradual transition from the present dependence on oil to coal and electricity in the medium term and renewable sources of energy in the long term. Even though current contribution of renewable energy sources to energy supply is insignificant and many of them are not commercially competitive at the moment, these technologies will have to be developed now, so that the transition in future will be smooth.

(b) In view of the growing scarcity of fuel wood in the rural areas, which is the main fuel for cooking, there should be a minimum needs programme of energy supply to the seriously affected rural areas.

(c) To reduce consumption of energy for domestic cooking, efficient chullahs should be developed and popularised with the help of official and non-official agencies.

(d) Overall energy intensity of the economy should be reduced, the efficiency with which energy is utilised should be increased and the desirable patterns of fuel consumption promoted. Energy consumption will be an important parameter in deciding on new investments. Statutory as well as promotional measures including energy audits of energy intensive industries will be taken up during the Plan period and financing of energy-conservation investments should be given preferential treatment.

(e) The choice between alternative modes of transport should be based on comparative resource—cost advantage with apporpriate weightage given to energy.

(f) Increasing the capacity utilisation and increasing the productive efficiency of capacity already created.

(g) So far management and investment concerns have been concentrated only on centralised energy systems. This has now to be complemented by a commitment of equal magnitude and seriousness to the development of decentralised energy systems.

(h) Indigenous research and technological activity in the energy sector was unsatisfactory. Organisation and institutions charged with this responsibility will have to be reinforced and strengthened, in particular the agencies in charge of new sources of energy.

(i) In the oil sector, measures will be intensified to control the growth rate and in particular the consumption of middle distillates. Alternative fuels for kerosene will be arranged. Detailed unit level studies will be carried out for substituting oil. Exploratory efforts to find more oil will be intensified. While flaring of gas will be minimised, a review of the existing policy on gas utilisation will be undertaken in view of the increase in the recoverable reserves of gas.

(j) There is universal criticism of the functioning of the State Electricity Boards. Steps will be taken to restructure and strengthen them so that they function in a business like manner. Capacity utilisation of thermal stations will have to be improved. Greater emphasis will be put on hydel projects and their construction expedited by using modern techniques and equipment. The pace of exploitation of small hydel will be expedited by special measures. Transmission and distribution system will be strengthened to ensure proper evacuation of power and to reduce losses. There is need to increase household electrification from the present level of about 12 per cent. With the adoption of higher sized generating units, the need for proper training of personnel at all levels has been emphasised.

(k) In the coal sub-sector, there will be increased application of modern technologies in view

of the requirement to step up production from about 150 million tonnes in 1984-85 to about 230 million tonnes in 1989-90. One of the causes of project slippages is the mistake in geomining assumptions. Exploration techniques will therefore be improved to yield accurate data and at a faster rate. To avoid movement of coal across the country, exploration for coal near the consuming centres will be expedited. The present anomaly of coal stocks accumulating at the pitheads with scarcity of coal in certain areas and complaints on coal quality will be removed through refinements in demand forecasting and effective linkages between consumers and the coal mines. Mention has also been made about R & D on insitu coal gasification with a view to exploiting the huge coal reserves found in Gujarat but in greater depths and on transportation of coal by slurry pipelines.

(l) On new sources of energy, the Approach document calls for widespread use of biogas and R & D efforts to reduce the construction costs and improve the operational efficiency. There should be speedier application of solar energy where its use is already competitive. R & D works will also be intensified on geothermal and ocean energy and for extending the range of application of wind energy. Municipal and Industrial wastes processing schemes will receive emphasis. In fact a beginning has already been made with an incinerator project using town refuse in Delhi.

Priorities in investments

It would be seen that priority will be on increasing productivity, better management, balancing investment and energy conservation. In the coal sub-sector better returns from the investments can be obtained by improving project implementation. As in March 1984, 71 projects were delayed and 41 for over 3 years. Actual coal production for these 71 projects was only 59.36 million tonnes as against the scheduled production of 82.15 million tonnes throwing out of gear the entire production planning and resulting in taking up for investment sub-optimal projects to make up for the shortfall in production. Productivity as measured in output per manshift is only 0.53 tonnes for underground mines and 1.96 tonnes for opencast mines. Corresponding international figures would be 1.6 to 3.5 tonnes for underground mines and 15 to 25 tonnes for opencast mines. Low productivity is partly the result of excessive manpower employed, little mechanisation in underground mines and poor management of costly mining equipment. Due to lack of timely repairs, mismatch with the other complementary machines, poor operating skills of workers, poor haul road maintenance, equipment utilisation is also low. This has assumed importance with the production from the opencast mines going upto 58 per cent in 1989-90. With some care in mining and coal handling, quality can be improved and matching coal supply with consumer requirement, the capacity utilisation in other sectors will also go up with lesser expenditure on plant and equipment maintenance.

Power sub-sector

In the Power sub-sector, capacity utilisation of thermal plants has to be improved. A quick calculation revealed that if in 1981-82 and 1982-83 the performance of the thermal stations had been as good as in 1976-77 there would have been hardly any power shortage. Moreover we could have saved to the tune of Rs. 3000 crores on investments in new additional capacity. So badly are we caught up in a vicious circle of power shortages that only 45 per cent of boiler units are actually overhauled without delays. And negligence in maintenance of boilers, turbo-generators etc., leads to still higher forced outages and consequently lower PLF. Government has recently approved a renovation and modernisation scheme of certain categories of thermal power stations. With an expenditure of Rs. 500 crores over a period of 3 years, generation will be increased by 7000 million units which otherwise could have been generated by additional capacity costing Rs. 1400 crores. Inadequate investment on transmission and distribution has proved costly. New generating units have recently come up and they had to be shut down in the absence of adequate evacuating facility. This has also resulted in higher line losses of 21 per cent as against about 10 per cent in developed countries. Investment on removing the weaknesses in transmission and distribution should receive priority because it is a more economical way to increase power supply than by adding to capacity. Except for the projects of National Thermal Power Corporation and a few other solitary examples, most of the power projects are considerably delayed. Delays result in cost escalation, damage to the exposed equipment, locks up capital and deny timely benefits with serious consequences.

Emphasis on exploration

In so far as the oil sub-sector is concerned, the first priority will be exploration. Foreign participation for exploration by its very nature will be limited. It is proposed to step up exploratory meterage from 354700 metres in 1984-85 to 1270700 metres in 1989-90, an increase of 358 per cent during the Seventh Plan period. As a result drilling density which was at the end of the Sixth Plan 1 well in 960 sq. kms. will become at the end of the Seventh Plan only 1 well in 480 sq. kms. This compares to 1 well in 15 sq. kms. in the U.S.A. This has become necessary if we are to remain self-sufficient. The balance recoverable reserves of oil are only 526 million tonnes which should last us about 17 years unless we also add to the reserves. Another way of increasing recoverable reserves is to extract more from the reservoirs. Average recovery factor for ONGC is about 21 per cent of the geological in-place reserves, as compared to 33 per cent for USA and 42 per cent for USSR. This increase could come through provision of additional facilities like platforms, early introduction of water injection, pressure maintenance schemes and enhanced oil recovery projects. While this will receive priority, de-

(*Continued on Page 27*)

Currency and exchange profile after Independence

S. K. Ray

Exchange control is an instrument of monitoring a healthy growth of both absolute and hard-core contents of exports mix vis-a-vis imports, so that there should be a sound rise in exchange surplus and a balanced structural growth of the economy. The extent to which India has been able to achieve these objectives in recent years has however been limited, says the author.

WITH THE ADVENT OF independence in 1947, the currency and exchange infrastructure was found riven with a number of distortions. Firstly, there was substantial pool of sterling balance, but this was mostly frozen in Great Britain for uses serving mainly the British interests. Secondly, India was still suffering from the backlash of the inflationary spiral let loose by war expenditure, and eightened by multi-pronged spending which had burgeoned after the war. Finally, the economy and the exchange counters were both extensively ridden by war-time and post-war exchange controls. The need for reform was therefore, both urgent and essential.

Activating sterling balances

I have briefly indicated earlier (please see issue 16-31 October) how sterling balances had in a way de-stabilised the economy, and how this eventually led to war-time inflation. The British manoeuvres with sterling balances both in UK and India, had substantially contributed to inflationary pressures during the war mainly due to wanton war expenditure, and after the war, due to spending under taken in abandon with the cessation of controls and regulations.

After independence, India had genuinely banked upon the precious sterling balances for her developmental requirements. But in practice this was not to be. India had soon enough discovered that the British Government was in reality quite reluctant to deblock the sterling balances for use as developmental finance for Indian economic growth, or for use as exchange reserves to India's terms or to suit her requirements. The British strategies had always meant to ensure that these balances were actually used to serve British interests and mainly British exports to India.

India unfortunately had by and large acquiesced to such econo-political British manoeuvres, and had imported much more from Britain, and through Britain, including foodgrains and consumer goods, than exported thereto, and adjusted the difference generally against sterling balances.

A succession of agreements on sterling balances were entered into in 1947, 1948 and 1951. It appears from a hindsight that India had agreed to such unfavourable agreements patently tilted to the interests of Great Britain under the influence of an euphoria of good Commonwealth relations.

Thus, for instance, much of the valuable sterling balances were set off against war-disposal stores and ammunitions left behind in India; capitalisation of pensions and other dues of British civilian and army personnel; and bulk purchases from Great Britain and through sterling balances.

Under these agreements Great Britain was able to largely abrogate and adjust their sterling balance obligations by dumping their unwanted manufactured and consumer goods and technologically out-of-date machine impliments and electronic goods

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into the vast Indian market. Large-scale purchases of foodgrains were also arranged through Great Britain against payments in sterling-balance adjustments.

The British Government was also successful in converting their own rupee dues from the Government of India into sterling, and set it off against the already much abused sterling balances.'

Cavalier fashion

The two essential and hard-core uses to which India had miserably failed to put the sterling balances were to finance trade with hard currency areas; and to bolster a sound exchange reserve in sterling. On the contrary, India was rather quick to plough through the sterling balances in a cavalier fashion, so that by the final year of the First Five Year Plan in 1956, the whopping sterling balances had already been whittled down even below the prescribed minimum of Rs. 400 crores.

Containing war-time inflation

The unabashed issue of paper currency during the Second World War to finance non-productive war expenditure on the strength of sterling balances was as expected accompanied by expansive rise of bank credit. This is indicated in the table below :

TABLE I

Catapult rise in paper currency and demand deposits with the banking system

(Rupees in crores)

	Paper currency	Demand deposits
1939	170	141
1945	1,085	600
	+915	+459

Source : Reserve Bank of India—Annual Reports on Currency and Finance.

It was a tremendous rise by any standard within a period of only five years. Apparently, however, the paper currency was unmatched by collaterals and economic growth and therefore the rise in demand deposits was less than proportionate.

As I said earlier, the simmering forces and pressures of inflation could not actually run riot during the war years in view of two principal restraining factors. Firstly, money was siphoned from the market for war efforts by rigorous and stringent measures. Secondly, there was enforced inflation of consumption for the vast multitude due to extreme shortage of consumer goods and necessaries which were largely remitted to feed the armed forces. Only the nouveaux rich had an ostentatious living. Control and rationing helped to foster the privation of the multitude.

Spending however sprouted up after the war in an unabashed manner. More consumption goods and necessaries also became available, with the cessation of war-requirements, larger outputs from indigenous industries, and also large imports of foodgrains and consumer goods, some financed by sterling balances. India also had adopted economic planning with many projects having long gestation periods from the Second Five Year Plan onward.

All these factors had worked together in a constellation effect to add a measure of permanence to the continuity and upswing of the inflationary curve in the post-war years and during the development decades after independence.

After independence exchange control arrangements were gradually improved and embellished to suit the requirements of independent India, under the surveillance of the Exchange Control Department of the Reserve Bank.

Deficit budgeting

Deficit financing means resource mobilisation outside internal generation of resources and external borrowing In effect therefore deficit financing signifies creation of uncovered paper currency and bank deposits.

Budgeting by deficit thus directly contributes to an expansion of money supply through an expansion of paper currency on the one hand and bank credit on the other. The expedient is a rather simple two-pronged logistic : the deposits are funded by large-scale borrowing from the Reserve Bank through loans, advances, or sale of securities or treasury bills to the Reserve Bank; and such deposits are also arranged by similar sale of securities to the commercial banks, this procedure having become convenient for the Government with the emergence of the public sector banks.

During the Five Year Plans, deficit financing has been undertaken by the Government, in a steadily growing pattern, the volume having shot up to Rs. 5,000 crores during the Sixth Five Year Plan

TABLE 2

Deficit financing during the Five year Plans

(Rupees in crores)

Plan period	Outlay envisaged	Deficit financing undertaken
First Plan	2,356	333
Second Plan	4,600	848
Third Plan	8,577	1,133
Interim Plan (1966–69)	6,756 (only three	682 years)
Fourth Plan	16,160	2,060
Fifth Plan	39,303	1,354
Sixth Plan	97,500	5,000

Source : Reports on Currency and Finance 1980–81, 1981–82 and 1982–83, Volume II, Table 77-B.

The impact on the inflationary spiral has been clearly manifest. With cascading increases in deficit

finance there has also been catapult rises in inflation. The seventies particularly in the second half have been highly worrying. The situation has further worsened in the early eighties.

The Government has from around the mid-seventies (1974 registered a 60 point rise in whole sale prices; monthly rise 2.5 per cent) adopted multi-faceted monetary, fiscal and price-regulatory measures, and these have helped in somewhat containing inflation during 1974-75 and 1978-79.

The rate of rise, called modest by the Government, but not by economic analysts, however persisted, and there were spurts of price rises during 1980 and 1981. But during the year July 1981-June 1982, the wholesale price index for all commodities (1970-71 = 100) registered a rise of 2.5 per cent from 280.7 to 287.8.

Overall the inflationary fever of prices has continued unabated and on a rising profile, and both average and percentage rises have been persistent and worrying. This is reflected in table 3.

TABLE 3
Movement of wholesale prices (1970-71=100)

Year	Index Number of all commodities	Percentage rise over previous year
1971-72	106	+21
1972-73	116	+9
1973-74	140	+21
1974-75	175	+25
1975-76	173	—1
1976-77	177	+2
1977-78	186	+5
1978-79	186	+0
1979-80	218	+17
1980-81	257	+18
1981-82	281	+9
1982-83	288*	+2*

*Provisional

Source : Reserve Bank of India—Report on Currency and Finance, 1982-83 Volume II, graph on 'selected economic indicators: price indices'.

With extensive borrowings abroad and recurrent deficits in balance of payments, another marked characteristic of post-independence currency and exchange system has been the mounting deficits in balance of payments.

The prospects of balance of payments have been estimated by the World Bank. The picture is rather grim as shown in table 5.

As a result, India's foreign exchange reserves which have been building up from Rs. 610 crores in 1974-75 to Rs. 1,492 crores in March 1976, and to Rs, 5,636 crores in September 1979, have been followed in later years by steady and continuous erosions. The reserves fell to Rs. 3,133 crores in October 1982, lowest in recent years, and came up to Rs. 3,682 crores in January 1983. They increased to Rs. 4,805 crores (provisional) in June 1983, but even the Rs. 5,636 crores achieved in September 1979 now looks like a far cry.

The depletions of foreign exchange reserves has led to recurrent changes in the currency and exchange legislation under the Reserve Bank of India Act. All these legislations have been in the nature of providing a statutory sanctity to a fait accompli. It became difficult to keep the exchange reserves from falling, and faced with the requirement for finding collateral for issue of paper currency, the Government started taking liberties with established norms. The holding of foreign exchange resources is considered a sound and necessary collateral for paper currency in circulation. In India, with steady depletion in foreign exchange reserves and holding of foreign securities, this position was being continuously reversed.

Essential features

To conclude, the essential features of the currency system adopted by the Central Government of India *as of today* may be briefly indicated as in the subsequent paragraphs.

The currency system is based on a dual mechanism of rupee coin (unlimited legal tender) and part rupee coins (limited legal tender). In the minting of rupee and part-rupee coins Cassel's meaningful statement is relevant : "The mint was pitted against the smelting pot, and the coin produced by so much patience and skill by one was rapidily reduced to bangles by the other." Whenever their intrinsic worth was higher than the legal tender value, they tended to disappear in the melting pot. Indian cities and towns seem to be presently going through such a phase.

It has been indicated by the Reserve Bank of India that 'the total value of rupee coins and subsidiary coins in circulation amounted to Rs. 213 crores in 1960-61 and Rs. 686 crores in June 1983.

There has been a continued and catapult rise in the availability of money supply with the public. This is indicated in Table 6.

The implications of such a rise are easy to appreciate. When such money are backed by collaterals and economic growth, there is prosperity and rise in income per capita, but when it is not, there is rise in prices and increasing pressures of the parallel economy over the official.

The 'proportional system' of maintaining collaterals (viz. 40 per cent in gold bullion and sterling securities, and 60 per cent in rupee coins, rupee securities, eligible bills of exchange and promissory notes) of yesterday, as I have already mentioned, has been largely diluted today.

Today, we follow what is known as 'the minimum reserve system of note issue', and the collateral

Table 4

India's Balance of Payments : 1950-51 to 1979-80

(Rs. crores)

	1950-51			1960-61			1970-71			1979-80		
	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net
CURRENT ACCOUNT												
(a) Merchandise trade (i+ii)	647	650	—3	630	1,106	—476	1,403	1,720	—317	6,201	9,576	—3,375
(i) Private	634	476	+158	624	644	—20	1,402	646	+756	1,181	4,838	+1,343
(ii) Government	13	174	—161	6	462	—456	1	1,074	—1703	20	4,738	—4,718
(b) Services & transfers	139	98	+34	260	178	+76	488	502	—93	4,555	1,415	+3,151
Net position on current account (a+b)	786	747	+32*	890	1,283	—399*	1,892	2,223	—410*	10,755	10,990	—224*
CAPITAL ACCOUNT												
(c) Private												
(i) Long term	14	27	—13	46	27	+19	39	68	—29	94	134	—40
(ii) Short term	2	2	—	5	8	—3	1	2	—1	—	—	—
(d) Banking	38	16	+22	44	34	+10	44	52	—8	206	288	—82
(e) Official												
(i) Loans	8	—	+8	257	16	+241	659	157	+502	982	87	+895
(ii) Amortisation	10	13	—3	3	38	—35	2	190	—188	3	479	—476
(iii) Miscellaneous	13	30	—17	144	37	+107	387	341	+46	632	336	+296
(iv) Reserves	50	79	—29	83	29	+59	320	231	+89	863	1,232	—369
Net position on capital account (c+d+e)	134	166	—32	582	183	+399	1,451	1,041	+410	2,781	2,557	+224
Current account deficit as % of GNP						2 67			1.03			0.21

* Including errors and omissions.

Note : The Reserve Bank of India has not released any balance of payments data for later years

Source : Basic Statistics Relating to the Indian Economy Vol I, August 1982; Centre for Monitoring Indian Economy, Bombay.

World Bank Estimates/Projections of India's Balance of Payments : 1980-81 to 1984-85 (US $ million)

	Estimates		Projections		
	1980-81	1981-82	1982-83	1983-84	1984-85
1. Exports (f.o.b.)	8,700	8,700	10,000	11,600	13,500
2. Imports (c.i.f.)	—15,838	—16,000	—17,500	—19,500	—21,750
3. Trade balance (2—1)	—7,334	—7,300	—7,500	—7,900	—8,250
4. Non-factor services					
Exports	2,354	2,558	2,957	3,423	3,958
Imports	—1,632	—1,643	—1,795	—1,996	—2,219
5. Resource balance (3+4)	—6,612	—6,385	—6,338	—6,473	—6,511
6. Net investment income	370	212	—147	—349	—482
7. Current transfers	3,079	1,840	1,984	2,142	2,303
8. Memo item : Net invisibles	4,171	2,967	2,999	3,220	3,580
Current account balance (5+6+7)	—3,163	—4,333	—4,501	—4,680	—4,690

Source : *Basic Statistics Relating to the Indian Economy Volume* I, August 1982; Centre for Monitoring Indian Economy, Bombay.

TABLE 6

Money supply with the public

Year	Aggregate rise	Annual Absolute rise	Annual Percentage rise
1951–61	853	85.3	4
1961–71	4,472	447.2	15
1971–81	15,869	1,586.9	22
1981–82	1,582	1,582	7
1982–83	3,383	3,383	13

Source : Calculated from :

1. *Basic Statistics Relating to the Indian Economy, Vol.* 3, August 1982, Table 19.1, Columns I and II.
2. *Report on Currency and Finance Volume* 2, 1982–83.

(assets of the Issue Department) consists of a minimum of Rs. 2,000 crores worth of gold and foreign securities, the proportion of gold being not less than Rs. 115 crores.

"The total Reserve Bank notes in circulation amounted to Rs. 1,940 crores in 1960-61 and Rs. 15,590 crores in June 1982." It has risen further in June 1984.

In a theoretical appreciation, it would appear that Reserve Bank is graduating, and very fast, from 'money supply' to 'money stock'. Traditional 'money supply' (M1) consists of currency notes and coins and demand deposits, whereas money stock (M2) includes in addition a burgeoning volume of time deposits.

In recent years, Reserve Bank has been clearly underplaying M1 and overplaying M2. The effect of fast growing time deposits on the banking and currency system is easy to appreciate.

In April 1984, the average of buying and selling rate of spot pound sterling were Rs. 15.47 for buying and Rs. 15.35 for selling per £ sterling, and the middle rate was Rs. 15.41 per £. The respective rates on specific dates during April 1984 were as given in Table 7.

TABLE 7

Selling and buying rates of pound (£) during April 1984

Date	Selling rate (in £=100)	Buying rate £=Rs.100
2 April 1984	6.4250	6.4725
11 April 1984	6.4250	6.4735
19 April 1984	6.4665	6.5155
23 April 1984	6.4875	6.5365
30 April 1984	6.5090	6.5580
Total 5 days	32.3130	32.5560
Average	6.4626	6.5112

Rate per £ in terms of rupees:

	Rs.	Rs.
Selling rate per £	100 / 6.0646 =	15.47
Buying rate per £	100 / 6 5112 =	15.35
Middle rate per £	100×2 / 6.4626+6.5111 =	15.41

In spite of India's membership of the International Monetary Fund and the prevailing system of multilateral payments, exchange control has been practised by us as an instrument of international exchange regulations.

This again is, more than that, also an instrument of monitoring a healthy growth of both absolute and hard-core contents of our exports mix vis-a-vis our imports, so that there should be a sound rise in ex-

(*Continued on page 34*)

The economic system

The growth of the private sector

AS FOR THE PRIVATE SECTOR and its performance, the Monopolies Inquiry Commission had estimated that the aggregate assets of the private corporate sector (excluding banking companies) amounted to Rs. 5,500 crores in 1964, of which 46 per cent was accounted for by 75 large industrial houses. The corresponding figures for 1967-68 were Rs. 7,500 crores and 53.5 per cent. In the eight-year period between 1959 and 1966, fresh investment by 20 large industrial houses accounted for 40 per cent of the total additional investment in the private organised industrial sector. Their assets had increased from Rs. 650 crores in 1958 to Rs. 1,780 crores in 1963-64, Rs. 2,310 crores as on December, 31, 1966 to Rs. 2,757 crores as on March, 31, 1968 and Rs. 6,618 crores in 1979. Thus, between 1958 and 1979 alone, the assets of 20 large houses have expanded ten-fold. Two business house, namely, Tatas and Birlas alone, acounted for the assets amounting to Rs. 2,619 crores, which is nearly 25 per cent of the total assets.

Table 3.7 shows the assets, turnover, paid-up capital and profits before tax of the 20 largest indusrial houses in 1979.

TABLE 3.7

Financial position of the 20 largest industrial houses in India (Rs. crores)

Name	Assets	Profits before tax	Paid-up capital	Turnover
Birla	1,309 99	121 02	156.19	1,627.39
Tata	1,309.38	91.63	182.42	1,720.25
Mafatlal	371 06	39.86	61.99	516.08
J.K. Singhania	352.53	13.12	49.87	391.33
Thapar	291.01	24.41	44.30	442.46
Sarabhai	249.52	17.53	20.10	334.27
Bangur	244.20	14 17	35.47	372.97
ICI	235.55	29.82	57 36	352.45
ACC	211.96	14 72	38.43	199.30
Oil India	211.27	13.96	33.93	435.08
Sriram	208.65	16.16	28 60	385.23
Scindia	205.96	—9.85	19.27	88.05
Kirloskar	191.91	12.35	29.44	229.46
Hindustan Lever	187.80	32.75	33.52	423.41
Larsen and Toubro	185.48	22.47	26.31	190.94
Modi	177.08	14.66	21.88	345.26
Chowgule	172.59	—2.66	22.56	43.26
Bajaj	168.61	14.35	23.08	211.86
Bhiwandiwala	168.17	—0.84	15.97	64.61
Kasturbhai Lalbhai	165.96	22.94	20.93	230.53

The phenomenal growth of large industrial houses may, inter-alia, be attributed to two important factors: (i) the industrial licensing system and other controls and (ii) the provision of assistance by financial institutions. According to the Monopolies Inquiry Commission Report :

> The licensing system worked out in such a way as to provide a disproportionate share in the newely licenced capacity to a few concerns belonging to the large industrial sector. The maximum of benefit went to a few larger houses These houses understood the mechanism and weaknesses of the licensing system as well as the manner in which maximum benefit could be obtained out of it. There are some which had developed the practice of submitting a large number of applications for the same product through various firms controlled by the same house.

It will not be out of place in this context to mention her the remarks of a non-resident Indian businessman, Mr. Swraj Paul, made at the Press Club of India on 19 August 1983. He said : "It is unfortunate that just 11 business houses in the country were controlling the industry in which public institutions had invested about Rs. 27,000 crores whereas their own investment was barely Rs. 148 crores." He further disclosed that "11 industrial houses were siphoning off a big chunk of the financial gains for their own ends and according to some estimates, they had deposited Rs. 25,000 crores in banks overseas". The remarks made by Mr Swraj Paul have not been denied or contradicted by the big industrial houses or by any responsible quarters.

The success of the operation of the private sector was because its activties were largely restricted to consumer goods and it was afforded adequate protection from foreign competition. The private sector is, therefore, operating in an area of high profits and is earning relatively higher profits than the public sector.

It is pertinent to note that the principal motive behind the operation of private sector is profit. In a situation in which only 12.5 per cent of the total population comprises the market for goods, the private sector produces only such goods and services which the heavily weighted in favour of that class which has a substantial purchasing power. Table 3.8 gives the factor incomes of the broad components of production, in both public and private sectors, over the years.

The figures given in this table reveal that there is a wide gap between the public and the private sector in the matter of factor incomes under the head "profits and dividends" over the years. While the percentage factor of profits and dividents in the private sector has remained almost steady at a very high level of over 22 per cent over nearly a decade, in the public sector it has been fluctuating between 12.4 and 21.8 per cent and during 1980-81, the latest year of review, amounted to 13.9 per cent. With regard to the percentage factor of compensation to employees, whereas in the private sector it has remained steady between 59.6 and 62.5 per cent in the public sector it has been stabilising over 60 per cent. This clearly establishes the fact that the organised private sector is operating at a high profit level.

Purchasing power for food

Having considered the state of the economic system, it is essential to take a look at the poverty profile of the economy.

We have dealt with the per capita consumption expenditure of our people earlier and have seen that a very large segment, consisting of 598.70 million people, has a per capita consumption expenditure of Rs. 1200 or less per annum. Among them, about 135.76 million people are able to spend less than Rs. 408 per annum per head on themelves. When this is the situation, it is interesting to know how far they able to meet at least the requirements of

TABLE 3.8

Factor income by public and private organised sectors (at current prices) (Rs. crores)

Item	1970-71	1975-76	1976-77	1977-78	1978-79	1980-81
Public enterprises	2606	6654	8206	8939	9942	13,096
1. Compensation of employees	1646	4340	4705	5215	5864	8034
(percentage)	(63.2)	(65.2)	(57.3)	(58.3)	(59.0)	(61.3)
2. Interest	590	1133	1553	1849	2181	2986
3. Rent	46	104	161	177	209	261
4. Profits and dividends	324	1077	1787	1698	1688	1815
(percentage)	(12.4)	(16.2)	(21.8)	(19.0)	(17.0)	(13.9)
Private enterprises	4476	7710	8822	9783	11,008	13,710
1. Compensation of employees	2793	4721	5260	6009	6740	8463
(percentage)	(62.4)	(61.2)	(59.6)	(61.4)	(61.2)	(61.7)
2. Interest	418	1052	1196	1342	1509	1755
3. Rent	95	157	164	202	256	279
4. Profits and dividends	1170	1780	2202	2230	2503	3213
(percentage)	(26.2)	(23.1)	(25.01)	(22.8)	(22.7)	(23.4)

Source: National Accounts Statistics 1970-71 to 1980-81, February 1983, pp. 82-33, Central Statistical Organisation.

foodgrains, leave alone the other essentials of life such as shelter, clothing and medicine.

The Indian Council of Medical Research (ICMR) has recommended the minimum per day per capita calorie intake for different categories as listed in Table 3.9.

TABLE 3.9

Minimum (per capita per day) recommended calorie intake norms

Group	Particulars	Calories	Remarks
Man	Sedentary work	2400	
	Moderate work	2800	(as recommended by the Nutrition Expert Group in 1968 and still treated as the latest)
	Heavy work	3900	
Woman	Sedentary work	1900	
	Moderate work	2200	
	Heavy work	3000	
	Pregnancy (second half of pregnancy)	+300	
	Lactation (up to one year)	+700	
Infant	0—6 months	100/kg of body weight	
	7—12 months	120/ kg of body weight	
Child	1—3 years	1200	
	4—6 years	1500	
	7—9 years	1800	
	10—12 years	2100	
Adolescent	13—15 years (boys)	2500	
	(girls)	2200	
	16—18 years (boys)	3000	
	(girls)	2200	

Source : Nutritive Value of Indian Foods National Institute of Nutrition, ICMR, Hyderabad, 1981.

However, the Task Force on Projection of Minimum Needs and effective Consumption Demand set up by the Planning Commission in 1977 computed the weighted averages of daily calorie intake of 2400 per persons in rural areas and 2100 per person in urban areas, corresponding to the poverty line, after taking into account all the relevant factors, such as, sex, age and type of work, as considered by the ICMR.

Cost of calorie requirement

It has been estimated by the Planning Commission that the monthly per capita consumption expenditure corresponding to the poverty line in terms of 1980-81 prices had escalated to Rs. 90.00 and Rs. 98.00, respectively, for rural and urban areas, on account of the increase in prices over the years. Assuming that the increase in the private consumption expenditure between food and non-food items in 1980-81, by and large conforms to that in 1976-77, as originally estimated by the Task Force, the per capita monthly consumption expenditure on food items in 1980-81 at the poverty line is estimated to be of the order of Rs. 70.47 for rural areas and Rs. 73.40 for urban areas. In other words, the per capita daily cost of 2300 calories in rural areas was Rs. 2.35, or Rs. 70.47 per month, and that of 2100 calories in urban areas was Rs. 2.45 per day or Rs. 73.40 per month.

Requirement of foodgrains

In terms of the calorie intake recommended, the total annual requirement of foodgrains at the poverty line can be estimated as follows :

Daily per capita caloric intake at the poverty line for rural areas is 2400 and for urban areas is 2100. Thus, the yearly per capita calorie intake at the poverty line for rural areas would be 876,000 and for urban areas it would be 766,500.

It has been estimated by the Planning Commission that 77 per cent of the private consumption expenditure on food items is attributed to foodgrains (i.e. cereals and puses in rural areas) and 61 per cent in urban areas. The estimated per capita yearly requirement of foodgrains at the poverty line in terms of calories intake, would be :

(i) Rural—674,520 (at 77 per cent expenditure)

(ii) Urban—467,563 (at 61 per cent expenditure)

The population of India, according to 1981 census:

(i) Rural—524.421 million

(ii) Urban—159.551 million

Total—683.972 million

The estimated total requirements of foodgrains in 1980-81 at the poverty line in terms of calorie intake :

(i) Rural—353,732 ('000) million calories

(ii) Urban—74,600 ('000) million calories

Total—428,332 ('000) million calories.

Let us now look into the production of foodgrains and calorie equivalent of the same.

Production of foodgrains

After arriving at the calories requirements in terms of foodgrains for the entire population, we may now take a look at the actual production figures of foodgrains during the year 1980-81 and its calorie equivalent, which are given in Table 3.10.

Table 3.10

Production of foodgrains (1980-81)

Name of crop	Number of calories per tonne (in '000)	Production (in '000 tonnes)	Calories equivalent (in '000 million calories)
(a) Cereals			
Rice	3,400	53,231	180,985.40
Wheat	3,460	36,460	126,151.60
Barley	3,000	2,242	6,726.00
Jowar	3,490	10,504	36,658.96
Bajra	3,032	5,418	16,427.30
Maize	3,420	6,804	23,269.68
Millets	261	1,578	411.86
Ragi	3,280	2,465	8,085.20
	Total (a)	118,702	398,716.08
(b) Pulses			
Tur (arhar)	3,350	2,015	6,750.25
Gram	3,720	4,652	16,747.20
Moth	3,400	198	673.20
Moong	3,480	974	3,389.52
Masur	3,430	435	1,492.05
Urad	3,470	977	3,390.19
Khesri	3,450	468	1,614.60
Peas and beans	3,760	84	315.84
Kulthi	3,400	739	2,512.60
Other pulses	3,400	657	2,233.80
	Total (b)	11,199	39,119.25
Grand Total (a+b)		129,901	437,835.33

Table 3.10 shows that the production of foodgrains in the country during 1980-81 was 437,835 ('000) million calories vis-a-vis the estimated requirement of 428,332 ('000) milion calories, indicating that the overall production during 1980-81 was marginally higher than the corresponding requirement of calorie intake by 2.22 per cent. However, it must be borne in mind that persons below the poverty line can ill afford to spend on pulses and the majority of the people subsist only on cereals and coarse grains.

The foregoing picture of a marginally higher per capita availability of foodgrains is a mirage and is highly misleading in the absence of a rational distribution system of foodgrains. The availability of calories of foodgrains according to consumption expenditure figures will be far less than the average per capita availabilty according to the production or even according to the ICMR standards.

With the increase in the production of foodgrains, the capacity to make available the required amount of calories has been achieved at the national level. But when it comes to groups of people and individuals requiring the prescribed calorie intake, the issue is linked to the capacity to purchase foodgrains. Due to the very meagre purchasing power of a vast majority of people below the poverty line a situation of scarcity in the midst of plenty is created. The situation is further aggravated if we take into account other items of consumption. This raises an important issue as to whether poverty defined on the basis of the caloric requirement and the availability of fooodgrains makes any sense. We have to take into account the total 'consumption basket' which indicates a mimimum level of living. We should also take into account some other items in the consumption basket and then calculate the cost of the consumption basket.

A daily budget for food

After taking into accont various factors, the ISMR has estimated the per capita requirement of food per day at the national level computed from the recommended intake of energy and protein at 2150 calories per day. Table 3.11 gives the per capita requirement of fod (gm|day) at the national level computed from the recommended balanced diets.

Based on the rquirement of food per day, as shown in Table 3.11 let us try to make a daily budget in terms of the money required to buy this food. In the absence of any all-India retail price index for these items, we have to confine our study to a particular area. Let us take urban Delhi for this case study. Here also, we will rely on the retail prices of fair price shops, which issue foodgrains and sugar at a heavy government subsidy, varying from 50 per cent to 75 per cent when compared with the

market prices for these commidities, and for other items we take the average retail prices of the Super Bazar in recent period. Table 3.12 gives the per day cost for the foregoing items of food.

Table 3.11. Requirement of food (gm|day)

Reqirement of food (gm/day)

Foodstuff	Physiological level	Retail level	Product level
1. Cereal	386	436	490
2. Pulses	43	47	53
3. Leafy vegetables	58	64	72
4. Other vegetables	45	49	55
5. Roots and tubers	40	44	50
6. Milk	200	220	248
7. Fats and oil	31	34	38
8. Sugar /Jaggery	31	34	38

TABLE 3.12

Cost of food (per day at December 1982 prices)

Foodstuff	Quantity at retail level (gm)	Rate per kg. (Rs.)	Amount required to by (Rs)	
1. Rice 218 }	436*	2.21 0.61	1.10 }	1.35
2. Wheat 218 }		1.65 0.49		
3. Pulses	47	5.00**	0.25 }	
4. Leafy Vegetables	64	3.00**	0.19	
5 Other vegetables	49	3.00**	0.15	
6. Roots and tubers	44	2.00**	0.09	
7. Milk	220	1.804+	0.42	
8. Fats and oils	34	15.00**	0.51	
9. Sugar/jaggery	34	3.15	0.11	

Accordingly, the monthly budget will be 2.82x30=Rs. 84.60
The yearly budget will be 2.82 x 365=Rs. 1025.65

In making the foregoing rough calculations, abundant care has been taken to choose the lowest prevailing ratail price in the market and that too from sources of retail outlets for subsidised commodities of mass consumption. The urban areas of Delhi are well served by fair price shops comparet with most of the countryside. Facilities for the rationalised mass distribution of cheap milk, as done by the DMS in Delhi, are nonexistent in most of the urban and rural areas in India.

Even relying on the aforementioned prices, we find that the daily budget needed for foodgrains and pulses, leave alone vegetables, oils and sugar, comes to Rs. 1.35, which means Rs. 40.50 per month or Rs. 492.75 in a year of 365 days. Now, let us see how many people can afford this expenditure based on the actual consumption expenditure as per the NSS.

According to the results of the NSS showing the percentage distribution of households, rural and urban, for the year 1973-74, by monthly per capita expenditure classification (see Appendices 1 and 2), 41.59 per cent of the people in the rural areas have a monthly per capita expenditure of less than Rs. 43. In the urban areas, the percentage in this category is 21.35. Broadly applying these percentages to the 1981 Census figures, we may assume that 218 million in the rural areas and another 34 million in the urban areas spend less than Rs. 43 per month per capita on themselves.

We may reasonably conclude, even allowing margins for omissions and commissions in arriving at these statistics, that 252 million people are not even able to buy the daily requirement of food for which Rs. 1.35 per day or Rs. 40.50 per month would be needed. In view of this, the claims of food self-sufficiency are hardly valid.

The overall production of foodgrains may be theoretically sufficient. But in the absence of any rational distribution system and with a widely varying purchasing power pattern that deprives millions of the capacity to buy even minimum requirements of foodgrains, it does not meet the requirements of per capita availability in terms of the norms recommended by the ICMR. Basing the requirement at the production level at the rate of 490 gm per capita per day of cereals and 53 gm per capita per day of pulses, the requirement of our population (according to the 1981 Census) would be 122.33 million tonnes of cereals and 13.23 million tonnes of pulses, making an aggregate quantity of 135.56 million tonnes of foodgrains. To maintain the availability at the same level, a minimum of 5 million tonnes has to be added every year to meet the requirements of the yearly growth of the population.

Moreover, it may be of interest to look into the needs of 'fats and oils'. According to the ICMR recommendations the daily per capita requirements is 34 gm. On this basis, the per capita requirement of 'fats and oils' in a year of 365 days would work out to 13.85 kg. According to the CSO (Central Statistical Organisation) the net per capita availability of edible oils for the year 1979-80 was 3.7 kg and that of Vanaspati 1.0 kg making an aggregate of only 4.7 kg per capita. It can be easily estimated as to how far we are lagging behind in meeting the country's requirements of this essential component of the common man's diet.

When we say that we are self-sufficient in foodgrains, we are talking of only a mathematical balance in terms of market-oriented demand and not in terms of real requirements of minimum nutritional needs.

The maldistribution of purchasing power results in malnutrition, which, in turn, brings about deficiency, both physical and mental of a lifelong nature in a large number of people. This affects their working capacity as well as productive skills. The cumulative effect of all this is to in-

*Assuming wheat and rice are consumed in the ratio of 1:1

**Average of different varities of this item has been taken.

+ Price of milk sold by the Delhi Milk Scheme (DMS): the fat content in this milk is far below that of standard milk. which sells at about Rs. 4 per litre.

crease the burden on the nation of this huge population, which serves as a drag, very much like a burden on a man's back. This also becomes a moral responsibility for the rest of the society and the weaker part always hinders the speed of the stronger part. This hindrance generates in its wake sociological and psychological problems of a depressing character. Once again, the easiest way out our society finds is to take refuge in fatalism and to succumb to this moral delusion in the name of religious beliefs.

How far can the 20-Point Programme help in alleviating the suffering of the people, especially those living below the poverty line?

20 particles of development and the national sector

The investment pattern during the last three decades in the Indian economy has been geared to maximise the national and the per capita income. The investment matrix of the production structure was envisaged to provide employment to the labour and ensure an equitable distribution of income. The distortions, if any, were proposed to be corrected by suitable modifications in fiscal and monetary policies.

This design of development which was put into operation by Pandit Jawaharlal Nehru provided a sound economic base, promoted industrial growth and, in particular, created a select band of skilled managerial manpower. The public sector which provided the infrastructural base gave an impetus to the production in the private sector which concentrated on the goods and services demanded by the segment of population with sufficient purchasing power. The equitable income distribution could not be ensured by the given production structure and an investment matrix which was oriented to meet the demands of the relatively well-off people than to the 'needs' of the masses.

The developing economies of the 1950's and 1960's all over the world, including India, were hypnotised by the concept of the growth of the GNP (Gross National Product). Developing countries were told by matured and seasoned developed countries that : "Take care of the GNP and poverty will take care of itself." Given the social, political and economic ethos of the developing countries, this was an erroneous dictum. Dr. Mahbub-l-Hay, then Chairman, Planning Commission, Government of Pakistan, has rightly remarked in his article entitled. "Let Us Stand Economic Theory on Its Head", published in the journal Insight (January 1970) : "Another direction we went wrong was in assuming that income distribution policies could be divorced from growth policies and could be added later in the fiscal system of the developing countries and fairly naive understanding of the interplay of economic and political institutions."

He further adds that "once the production has been so organised, it was to leave a fairly large number of people unemployed It becomes almost impossible to redistribute income to those who do not even participate in the production stream......
Once you have increased your GNP by producing more luxury houses and cars, it is not very easy to convert them into low cost housing or bus transport."

Mrs. Gandhi's 20-Point Programme, which can be best described as 20 particles of development, is an attempt to correct the production structure to cater to the 'needs' of the people rather than merely meet the 'demands' of the people. The investment matrix is now geared to distributional parameters so that the existing production structure contributes to the GNP and helps in changing the composition of production structure over a period of time. Mrs. Gandhi's target-oriented 20-Point Programme has been grafted to the existing planning design. It draws its strength from a well-laid out infrastructure and a basic industrial structure coupled with the modern agricultural sector. The attempt is to integrate the production matrix with the distribution matrix. But these two blocks of the economy are still operating as a part of the same planning design. The time-bound 20-Point Programme aims at ameliorating the conditions of the poor and the underprivileged. It is essential that this process becomes a self-sustained one. The present planning design does not provide for such a mechanism. This is on account of the fact that the present production structure distributes its gains either to the public sector or to the private sector. In case of the public sector, the grains are few due to the overall socio-economic objective of strengthening production potentialities of the economy, while, in the private sector, the gains are not available in an equal measure to all the participating factors of production. This results in the monopolising of the gains by a few in the private sector.

In view of this, resources separately required for the 20-Point Programme have to compete with the resources entering the production structure. This calls for changes in organisation and designing of the production structure and the investment matrix in such a way that there should be no need to have a separate programme of distribution of income. It should be in-built into the organisation of the production structure.

The concept of economic democracy enunciated subsequently is an attempt to introduce gradually changes in the production structure to ensure proper sharing of the gains of participating factors of production.

The 20-Point Programme will be an integral part of the national sector and this would insulate the economy from maldistribution of income and from extra-economic forces which bring about distortions in the economy. Mrs. Gandhi's Programme is, in fact, a realisation at the political level of the need to intervene in the design of economic development. This will get formalised as soon as we start implementing the main ingredients of the national democratic sector. What this really means is to integrate distribution parameters at the production stage. Once each one gets employment in the production mechanism as an equal partner and income becomes a function

(Contd. on page 34)

India enters metro age

Mahadev Pakrasi

India entered a new age of transportation in October this year when a four kilometre stretch between Esplanade and Bhawanipur of Calcutta Metro was opened to traffic. Inspite of delays and cost esclation, Metro has dispelled doubts and misgivings about the reality of the Indian underground railway, says the author.

THE FIRST AND LASTING imprint that leaves a visitor about Calcutta, the tenth busiest city of the world, is its chaotic traffic. In its age-worn streets, the views of slow moving tram cars, overflowing with passengers perched all over, precariously hanging passengers on footboards of buses and still others struggling to manage a foothold are some of the eye-sores of a metropolitan city.

The three-hundred-year old chance erected city of Calcutta founded by a petty British businessman Job Charnock grew in fits and starts until the country underwent the traumatic experience of partition. Masses of humanity crossed the border and unplanned settlements mashroomed in and around this city. This created tremendous pressure on the city's transport system. Imagine a situation of 10 lakh commuters converging on the city's skimpy roads daily leading to business centres and office areas. Compared to 25 per cent of the city space occupied by roads in Delhi only 6 per cent is available for roads in Calcutta. The result : chronic traffic congestion. This has put the traffic system into the severest test and naturally it is now almost on the verge of collapse. A way out has to be found to stem the rot. And conceived it was way back in 1949.

The great visionery Dr. B. C. Roy, the first Chief Minister of the State, had thought about an underground railway transport system to ease the stress on surface transport and made a preliminary exercise. The cost factor and other pressing socio-economic considerations like the Refugee rehabilitation issue apparently required more urgent attention and the transport issue was shelved.

Project profile

It was reopened in 1972. A blue print was prepared to construct a 16.43 kilometre long rapid transport system mainly located underground. It will pass under the busiest traffic Corridor from Dum Dum to Tolleygunj. Its 17 stations enroute will have two terminus stations on surface.

The project cost of the Metropolitan Rapid Transport system or Metro in short, sanctioned in 1972 was Rs. 140 crores. It was revised to Rs. 250 crores in 1974. It is now estimated that when the Metro will be ready in another six years, the cost would escalate to about Rs. 1000 crores.

So far, about fifty per cent work has been completed. At the moment commercial movement of trains has been restricted to a 4 kilometre stretch between Esplanade and Bhawanipur. It will have five underground stations. One train with four coaches will shuttle in the area covering the distance in six to eight minutes.

At present about 80 odd cities of the world are having the Metro.

Its novelties

The Metro-rail has many novelties. The train will be having eight coaches. Six coaches will have motored axles and two will be trailer coaches. It will have no overhead link to power it. It will have a connecting system under the coaches which will draw power from a third rail running parallel to the track. This system is adopted in most of the Metros of the world.

Unlike the ballast, stone chips on which the sleepers and tracks are laid, the rail line will be placed on a bed of concrete and thick rubber mat. This will ensure a dust free and less noisy journey. Moreover, this arrangement does away with maintenance work on the rails after usual running of trains needing checking of alignment of the track. The doors will close automatically before the train moves. The engine cable will

have sophisticated equipment to keep the driver ever alert against overspeeding.

The movement of trains will also be constantly monitored from the central Control room to ensure smooth movement of traffic. Most of the electric cables laid are fire-proof and adequate provision made for fire alert and fire fighting equipment. The coaches themselves are spartan looking with modest running seats along the sides. Maximum provision has been made for standing passengers. This is quite in keeping with the rushing crowd and short period of transit of a little over half an hour to cover the sixteen and a half kilometres route.

The crucial question is of continuous supply of power. The Metro will require about 55 Megawatt power to run all its installations smoothly. It has approached the Calcutta Electric Supply Undertaking, a private sector Organisation. The General Manager of the Metro-rail, Mr. N. K. Dasgupta feels, for a state which consumes about 600 Megawatt power daily, the question of diverting one-tenth of its requirement will not be much of a problem. Three substations are being built for proper distribution of power to all installations. In the extreme case of a total power break down. The Metro will have its own generating sets to keep its stations lighted and vital equipment on. The Metro will also have a unique distinction of keeping the underground area cooler than the surface atmosphere. The Stations and tunnels will be air-cooled with big air handling fans of 250 cubic metre per second capacity. It will ensure cleaner and cooler environment than the outside atmosphere.

Cut & cover method

Unlike the usual mechanised tunneling method, the metro has used the "cut and cover" method which is cheaper and employment generating. Here also there are some novelties. In Chitpur yard, for example, diaphragm walls were constructed underground across 19 railway lines. The utility lines were restored on girders and walls erected specially for them. Beyond Chitpur yard to Shyambazar work is in progress over a kilometre stretch on two driven shield tunnels by using special equipment purchased from Hungary and the Soviet Union. The tunnel has crossed a deep canal, a very busy traffic intersection and several old multi-storeyed buildings. It is almost ready.

Special medical provisions had to be made for the personnel working in the zone of compressed air created for the purpose of tunneling. It is quite an experience to tread in mud and slush under the surface in heat and sweat to see the toiling men engrossed in their work amid dizzy clamour of monstrous machines. The floating traffic on surface is also blissfully, unaware of what goes on underground.

The underground shell or tube which bears the load of surface has to be spacious enough for passing of a pair of trains and strong enough to withstand the great weight of the buildings, soil and vehicles over it. Great care has been taken to cause least damage to the adjacent buildings while construction of the metre. Huge concrete diaphragm walls are erected to take care of the pressures from the side. In one of the most heavy traffic area, Chittaranjan Avenue, lack of alternative roads to divert traffic during digging posed a great problem.

A novel method "Cover and Cut" was devised. Under it diaphragm walls are made on two sides. Two rows of steel posts are driven in the centre. Deck girders are kept resting in diaphragm walls and deck plates are laid on the top to enable the flow of traffic. Thus while traffic moves on uninterrupted on the deck, construction and digging goes on underneath. This method considerably reduces inconvience to public from the 'cut and cover' method. This technique is being followed over longer stretches.

The concrete boxes of the Metro are usually two storeyed at stations. The upper box is called Mezzanine and is used for passengers and traffic vending. The lower box is equipped with platforms and tracks. For entry and exist small structures are located at the surface. These are connected by stairs and passages to mezzanine floors. At Tolleygunj the track comes overground. The station building on surface is almost ready.

The metro in the final shape in 1990 has many promises to keep. The eight-coach train will transport 60,000 passengers an hour and 17 lakh a day. There will be an up and down trains every two minutes The metro authority hopes that it will siphon off about 20 per cent of the harried commuter traffic from the surface transport. Undoubtedly this will reduce congestion and pollution of the city to quite an extent.

Some nagging questions

There still remains some nagging questions. Firstly, how safe is the Metro system in the eventuality of the flooding of the tunnel. The experience of last June when it was almost ready for partial commissioning is far from happy, in terms of material loss also. The British and French experts teams which visited the site after the deluge have, however, given a clean chit on the quality of construction. The Metro General Manager, Mr. Das Gupta, however, expressed confidence that they are more vigilant now and such a situation will not recur.

The other question is about maintenance. Lack of maintenance, vandalism and thefts of vital equipment have been the typical banes. In Metro thefts and sabotage will spell doom to thousands of unwary passengers as there is little room for manoeuvre. According to Metro authority it has been decided that during the construction phase it will operate and maintain the system under the overall control of the Railway Ministry.

All these problems will come out in their true colours in the partial operation of the Metro. It will give adequate opportunity to the authority to rectify the initial faults in operation, ventilation, maintenance systems and effectiveness of the sophisticated equipments installed.

Inspite of delays and cost escalations, Metro has dispelled doubts and misgivings about the reality of the Indian underground railway. As the country enters into a new age of transportation, the dream of the architect of West Bengal Dr. B. C. Roy has come true after 35 years. □

Television goes to villages

Gopal Saksena

Doordarshan has to play two major roles in our country. Primarily it is required to educate and inform as an agent of social change. Secondly, it has to fulfil public expectation of being an entertainer.

Doordarshan celebrated its silver-jubilee recently. The mandate handed over to it twenty-five years ago has not changed at all. Unlike the television organisations in countries in the West, Doordarshan was required to act as 'an agent of social change'. In other words, it meant that Indian television was more for 'education' and 'information' than for 'entertainment'.

The same concept was applied to our Rural Programmes, when in January 1966, an agricultural television service, called 'Krishi Darshan', was introduced. Now, Rural Programmes are telecast from all the metropolitan centres, Post-Site stations (called Upgrah Doordarshan Kendras) and the present INSAT Service. In a way, all Low-Power Transmitters (LPTs) also put-out agricultural programmes because they relay Delhi Doordarshan's entire transmission (including 'Krishi Darshan').

The basic objectives of Rural Programmes on television can be summed up as follows :

(a) To familiarise rural viewers with latest technical and scientific know-how about farming, agricultural implements, fertilisers, good quality seeds, cottage industries, rural development, weather forecasts etc.;

(b) To provide healthy entertainment (Folk music|plays|puppet shows etc.) and,

(c) To acquaint the audience with the importance of education, personal hygiene and health, family-welfare etc.

In 1975, India embarked upon a new project the Satellite Instructional Television Experiment (SITE). It was a one-year project and came to be recognised as one of the most exciting experiments in the field of mass communication. Covering in a single, simultaneous sweep, 2400 villages in six States, with four linguistic groups, was in itself an achievement.

India exploited the Satellite technology by introducing INSAT (Indian National Satellite) for the expansion of television in the country. After INSAT-1A had to be abandoned for having developed some technical snag in 1982, INSAT-1B was made fully operational by October, 1983. (Besides television, it is being utilised for radio, television, tele-communication, meteorological forecasts etc.).

In case of television, INSAT-1B is used to carry television to rural and tribal areas in the remoter parts of India. Under this project, three districts each in six states (Andhra Pradesh, Orissa, Maharashtra, Uttar Pradesh, Bihar and Gujarat) have been selected to provide at the government cost, community-viewing facilities. In all, 4000 community-viewing sets are being provided in selected villages. Half of these are DRS (Direct-Receiving Sets) and half VHF (Very High Frequency) sets.

The INSAT programmes are essentially 'instructional'. These can broadly be divided into two categories (1) Area-specific items, like rural programmes etc., and (2) educational for the age-groups of 5 to 8 and 9 to 11 among the primary school-going children. The area-specific programmes have a thirst on agriculture, animal-husbandry, health and hygiene, family-welfare, adult education, social awareness, national integration, weather-forecasts, topical hints for farmers etc.

Programme input

The bulk of programmes are required to be prepared in field-areas. Only a bare minimum is to be left over to sophisticated studio-productions. The planning of programmes is being done by the Doordarshan producers in consultation with various departments of the Central and State Governments involved in agricultural and rural-development activities (including Agricultural Universities and Research Institutes). Then, there exists coordination and collaboration between the Producer and the Audience Researchers.

Transmission methods

Arrangements made for taking INSAT programmes to the viewer show an improvement on those tried during SITE. In case of SITE, the transmission could be viewed only on the specially-made Direct Receiving Sets (DRS). But INSAT offers a combination of DRS and VHP (Very High Frequency) sets. The former receive programmes directly from the Statellite and the latter catch the signals through terrestrial transmitters. In fact, the terrestrial transmitters receive programmes on a DRS and then transmit the same to the VHF sets. Known as the 'Rebroadcasting System', it facilitates the reception of 'rediffused signals' by an ordinary VHP set. Naturally, the INSAT system ensures greater utilisation especially in rural and remoter areas.

According to a Survey, conducted on the "Need Assessment of Agriculture in Muzaffarpur", by Upgrah Doordarshan Kendra (Satellite Television Centre), New Delhi :

> "Most of the respondents appreciated the agriculture-based programme, 'Chaupal', which gave them information about modern cultivation, HYV, fertilizers, pesticides, diseases of crops and cattle etc. The respondents, however, said that though TV is a powerful media it has made only a limited impact on them because the programmes telecast were not interesting and need-based....... and (irrelevant) to the area".

What comes in way ?

But why have our Rural television programmes not been able to reflect a genuine 'ruralness ?' Why does one get an impression of these being contrived, deliberate or superficial. No village-atmosphere, no rural warmth, no folk flavour. There are many factors contributing to this unhappy situation.

Firstly, the urban viewers of Doordarshan have always been very dominating and dictating in regard to their own choice about the contents of our single channel television transmission. Their tastes, flairs and preferences get the better of needs and interests of our silent, though sizeable, rural audiences. For instance, the Post-Site Centres were initially not to telecast feature films. But constant protests from the city-dwellers in those areas worked and the Sunday Feature Films became part of their regular transmissions.

More recently, their demand for the Thursday feature films and song and dance sequences from films were also conceded. Even the Kheda-transmission—an experimental project-is now carrying feature films.

Secondly, the introduction of national net-work programmes and relay of Delhi Doordarshan's transmission from all LPTs seem to have brought-about a radical change in the basic concept of 'urban-rural divide' among the television-views. All programmes are now for all. Either one views them or switches off the set ! And, naturally being more entertaining, Delhi programmes are liked by rural viewers.

Thirdly, the proportion between the number of sets available in villages and in cities is hopelessly poor. In other words, there are more number of sets in the urban and semi-urban areas than in rural parts. Perhaps, the more numerous has better claims in democracy !

Fourthly, the Community-viewing scheme needs to be reviewed and revised, if necessary. There are at present about nine thousand community-sets against 5.75 lakh villages in India. While not many private-owned sets are available in villages the number of Community-Viewing ones is far too inadequate. Then there are problems like (a) lack of regular power-supply in villages; (b) irregularity on the part of set-custodians to switch the sets on in time; (c) shortage of man-power and machinery to repair the sets; (d) necessary facilities by way of adequate space proper viewing-conditions, reasonable number of persons per set, etc. These are a pre-requisite for an effective viewing of rural telecasts.

Fifthly, almost all Production Centres of Doordarshan are located within the urban-limits. Most of the TV-Producers come from the city-cultural ethos. A majority of talkers and participants are drawn from urban areas. Naturally, the culture and sensibilities of villages and hopes and aspirations of rural-folk are not much reflected in our television programmes. Not even in those, exclusively meant for the rural-folk !

Sixthly, television is still a costly proposition from a common man's point of view. The huge cost involved in providing the basic infra-structure at the receiving end is a major deterrent. That is the reason why, despite all visual attractions that television holds, radio is still effective, relevant and popular in rural areas today. A farmer can move-about-around his field, hut or market-place-with a transister dangling down his shoulder.

And, lastly, the concept of entertainment is undergoing a vast and fast change in rural areas. They love to watch feature films and other high entertainment programmes as much as the city-dwellers do. Their constant exposure to All-India programmes (through relays) and to films (on their frequent visits to nearby towns) has considerably modified their tastes and flairs.

The Joshi Working Group on Software for Doordarshan have observed :

> "The trouble with many development programmes like Krishi Darshan......is that they are produced within the studio often with urban men in rural garb. It is often an urban view of rural programmes, or a view of problems of urbanised villages. Considering the immensity of the task of fighting poverty, we recommend that more than half the time of Doordarshan must be related to the development and educational programmes." □

The economic situation

In 1983-84, the economy recorded significant growth largely as a result of a sharp increase in agricultural output. Although industrial output too showed higher growth than in the previous year, the growth rate was much below the Plan target. National income is expected to rise by about 8.5 per cent, as compared with the increase of less than 2 per cent in 1982-83. External payments position also improved inspite of a widening of the trade gap. Despite these favourable developments, the price situation continued to be a source of concern.

Agricultural production

Latest estimates place foodgrains production during the year in excess of 150 million tonnes, surpassing the previous peak touched in 1981-82 by about 13 per cent. Production in the previous year was 128.4 million tonnes. As for the commercial crops, oilseeds production is expected to establish a new peak of 12.6 million tonnes. Jute and mesta output is higher at 7.5 million bales, as against 7.2 million bales. Output of cotton is, however, estimated lower at 7.7 million bales, as against 8.3 million bales. Sugarcane production is also expected to be lower around 165-170 million tonnes, as against 189 million tonnes. With increased production and hike in procurement prices, larger quantities of foodgrains have been procured for public distribution. Because of the improvement in open market availabilities, off-take of foodgrains from the public distribution system which had shown a rising trend in 1982-83, has been slowing down since September 1983. Consequently, the public sector stocks of foodgrains as at the end of June 1984 stood higher at 22.6 million tonnes, as against 16.9 million tonnes a year before.

Industrial output

The performance of industrial sector, although not as impressive as that of the agricultural sector, was still better than in the previous year. The general index of industrial production showed a rise of 5.4 per cent during the financial year 1983-84, as against 3.9 per cent.

Production

	1982-83	1983-84
Foodgrains (Million tonnes)	128 4	150.6
index of industrial output (1970=100)		
Monthly average	173.8	183.0
Growth rate (%)	+3.9	+5.4

All the groups except the 'consumer goods industries' group recorded increase. During the first two months of the current financial year (1984-85), the index showed a further increase of 7.6 per cent, as against 3.5 per cent in the corresponding period of the previous year. The six infrastructure industries viz. electricity, coal, saleable steel, crude petroleum, petroleum refinery products and cement registered an overall increase of 6.7 per cent during the financial year 1983-84, on top of an increase of 8.8 per cent achieved in the previous year. Total power generation during the year 1983-84 at 139.9 billion kwh, increased by 7.6 per cent, compared with an increase of 5.7 per cent in 1982-83. Power generation during the first quarter of 1984-85 (April-June) at 37.4 billion kwh. was higher by 15.7 per cent, as compared with an increase of only 1.3 per cent in the same period of 1983-84. Although the data show an encouraging performance of infrastructure industries, production in the manufacturing sector does not appear to have been helped

to the commensurate degree, as there still remained a gap between the availability and requirement of power which appears to have affected industrial production, particularly in southern and eastern regions. The output of coal and cement increased but still fell short of the targets; besides, their movement of the consuming centres was affected by inadequate availability of wagons. The disturbed situation in the Punjab and in industrial relations also affected manufacturing production adversely.

National income, saving and investment

According to the Reserve Bank estimates, the growth rate in net national product (NNP) in real terms would be around 8.5 per cent in 1983-84, the highest since 1978-79, against 1.7 per cent in 1982-83 and 4.9 per cent in 1981-82.

National Income, Saving and Investement

	1982–83	1983–84
National Income*	+1.7	+8.5
Domestic Saving†	16.9	16 6
Inflow of foreign resources	1.6	1.4
Aggregate net investment†	18.5	18.0

*Per cent growth in net national product in real terms.
†As per cent of net national product at current market prices.

Aggregate net domestic saving is tentatively estimated at 16.6 per cent of NNP at current market prices, as against 16.9 per cent in 1982-83. The net inflow of resources increased over the year but, as a ratio of NNP, it showed a small decline from 1.6 per cent in 1982-83 to 1.4 per cent in 1983-84. Because of a sharp increase in NNP at current market prices, net investment as a ratio of NNP declined from 18.5 per cent to 18.0 per cent. Gross investment as a proportion of GNP also declined from 24.2 per cent to 23.3 per cent.

Credit policy

The credit policy measures undertaken during the year were chiefly aimed at reducing the expansionary impact of rapid growth in reserve money. While so doing, the basic tenet of credit policy continued to be one of fully supporting all productive activities with the observance of normal credit norms and discipline as an essential condition for the extension of credit.

Bank Credit and Deposits

(April—March)

(Rs. crores)

	1982–83	1983–84
Bank credit expansion	5,812	5,504
	(+19.6)	(+15 5)
Aggregate deposit growth	7,625	9,178
	(+18.0)	(+17.9)
Credit-deposit ratio (end-June)	69.1%	67.7%

Note: Figures in brackets indicate percentage variations.

Against the background of a rapid growth of liquidity in recent years, a significant increase in reserve money creation and a rise in prices despite a record food crop, credit policy for the slack season of 1984 emphasised the need once again for moderating the rate of growth of liquidity and thereby curbing inflationary expectations. In order to provide resources for vital public sector investment within the framework of national priorities, it was decided to raise the statutory liquidity ratio by one percentage point in two stages to 35.5 per cent effective from July 28, 1984 and to 36 per cent effective from September 1, 1984. It was also decided to release a par of the impounded cash balances as on October 31, 1980 before the onset of the 1984-85 busy season to prevent the emergence of any stringency in resources that may be needed to support the larger increase in output that was expected.

Monetary and credit trends

Monetary expansion during the fiscal year 1983-84 was larger than in the previous year in both absolute and percentage terms. M (currency with public, demand deposits with banks and other deposits with Reserve Bank) increased by Rs. 4,491 crores or 15.7 per cent, as compared with the rise of Rs. 3,806 crores or 15.4 per cent in 1982-83. M_3 ((M + time deposits with banks) expanded by Rs. 12,699 crores or 17.4 per cent, as against Rs. 10,442 crores or 16.7 per cent.

Money Supply and Prices

(April – March)

(Rs. crores)

	1982–83	1983–84
Money supply	10,442	12,699
M_3	(+16.7)	(+17.4)
Wholesale prices (1970–71=100)	+6.4%	+9.3%
Consumer pices (1960=100)	+11 2%	+9.8%

Note: Figures in brackets indicate percentage variations.

The factors which contributed to the acceleration in monetary expansion during 1983-84 were a higher increase in net bank credit to Government of Rs. 5,818 crores in 1983-84 than that of Rs. 4,734 crores in 1982-83 and the lower contractionary impact of the fall in the net foreign exchange assets of the banking sector (Rs. 104 crores as compared to Rs. 895 crores). Bank credit to commercial sector, on the other hand, recorded a lower rise of Rs. 7,929 crores than that of Rs. 8,796 crores in 1982-83. The accelerated growth in money supply continued during the April-June quarter of 1984 also with M_1 registering a further rise of Rs. 2,285 crores (6.9 per cent), as compared to the rise of Rs. 1,576 crores (5.5 per cent) in the corresponding quarter of 1983-84.

The rate of growth of deposits was higher both in absolute and percentage terms at Rs. 9,179 crores and 17.9 per cent, against Rs. 7,625 crores and 17.4 per cent, respectively. Bank credit, however, expanded at a slower pace by Rs. 5,504 crores or 15.5 per cent, as compared with Rs. 5,812 crores or 19.6 per cent in 1982-83. Expansion of Rs. 1,057 crores in food credit in 1983-84 was larger than that of Rs. 838 crores in the previous year, but non-food credit showed a smaller rise of Rs. 4,447 crores, as compared with

Rs. 4,973 crores in 1982-83. In the first quarter of the financial year 1984-85 (April to June), deposit growth at Rs. 3,315 crores was higher than that of Rs. 2,681 crores in the corresponding quarter of 1983-84. The pace of expansion in bank credit at Rs. 2,061 crores during the same period was faster than that of Rs. 513 crores in the same period of 1983-84. Food credit rose by Rs. 1,211 crores and non-food credit by Rs. 850 crores during the period, as compared with an expansion of Rs. 624 crores and a contraction of Rs. 111 crores, respectively, in the corresponding period a year ago.

Trade balance

The merchandise trade gap widened from Rs. 5,526 crores in 1982-83 to Rs. 5,781 crores in 1983-84. Exports increased by 9.9 per cent to Rs. 9,676 crores, as compared with an expansion of Rs. 624 crores Imports were higher by 8.9 per cent at Rs. 15,457 crores.

Foreign Trade

(April– March)

	(Rs. crores) 1982–83	1983–84
Imports	14,360	15,457
Exports	8,134	9,676
Balance of trade	—5,526	—5,781
Foreign assets*	—377	+80

*Variations over the years ended June excluding drawals from IMF.

Balance of payments

The improvement in the overall balance of payments situation continued in the fiscal year 1983-84 and, encouraged by this improvement, the Government of India terminated the three-year Extended Fund Facility (EFF) arrangement with the International Monetary Fund (IMF) from May 1, 1984, about six months ahead of the date when it was to come to an end. Accordingly, under the EFF arrangement, India drew SDR 3,900 million or SDR 1,100 million less than the amount of SDR 5,000 million initially agreed to be drawn over the three-year period ending November 8, 1984.

Foreign currency assets

Developments in foreign exchange reserves and other indicators suggest an improvement in the external economic performance during fiscal 1983-84. The foreign currency assets of the Reserve Bank rose by Rs. 1,233 crores, as against a rise of Rs. 911 crores in 1982-83. Excluding the drawals in foreign currencies under the EFF arrangement of Rs. 1,197 crores and Rs. 1,893 crores, respectively, the foreign currency assets rose by Rs. 36 crores in contrast to a fall of Rs. 982 crores in 1982-83. During 1983-84 (July-June), foreign currency assets of the Reserve Bank recorded an increase of Rs. 5,712 crores. Excluding the drawals from the Fund under EFF of Rs. 916 crores and Rs. 39 crores of repurchase of CFF drawals, these assets would show a rise of Rs. 30 crores, as against the decline of Rs. 377 crores in the corresponding period of 1982-83, excluding the IMF drawals of Rs. 1,908 crores.

Exchange rate of the rupee

The exchange rate of the rupee continued to be determined with reference to a weighted basket of currencies. Adjustments in the middle rate of rupee in terms of pound sterling were made on 118 occasions during the year and exceeded marginally the 113 revisions in the previous year. The middle rate of the rupee moved from Rs. 15.45 on June 30, 1983 to Rs. 15.15 on June 29, 1984, recording an appreciation of 1.98 per cent over the period. The rupee appreciated also against French franc by 0.97 per cent and Italian lira by 2.46 per cent, but depreciated against the US dollar (9.76 per cent), Deutsche mark (1.25 per cent) and Japanese yen (10.53 per cent) and also against the SDR (6.62 per cent).

Government finances

The combined position of Central and State Governments' receipts and disbursements show that aggregate receipts in 1984-85 are budgeted to reach Rs. 63,338 crores, as compared with the budget estimate of Rs. 53,736 crores in 1983-84—a rise of 17.9 per cent which is more or less the same as in the previous year.

Budgetary Position

(Central and State Governments)

	(Rs. crores) 1983–84 (Revised)	1984–85 (Budget)
Receipts	58,200	63,388
Disbursements	60,747	65,708
Of which developmental expenditure	38,870	41,950
Net position	—2,548	—2,370

Aggregate disbursements are estimated at Rs. 65,708 crores in 1984-85, as compared with Rs. 55,832 crores in the budget estimates for the previous year—a rise of 17.7 per cent as compared with 16.5 per cent in 1983-84. The growth rate in developmental expenditure in 1984-85 is projected to increase substantially to 18.3 per cent from 13.4 per cent in the previous year, while the rate of non-developmental expenditure is expected to go down sharply to 14.8 per cent from 22.3 per in 1983-84.

Price situation

Although there was a sizeable growth in real output in 1983-84, the price situation remained disconcerting for the major part of the year. In fact, the rise in prices as measured by the index number of wholesale prices for 'all commodities' (base 1970-71 = 100) rose, on a point-to-point basis, by 9.3 per cent in the fiscal year 1983-84, against 6.4 per cent in 1982-83. The average increase in the index also worked out higher at 9.3 per cent, against 2.6 per cent. All the three major groups viz. primary articles, fuel, power, light and lubricants and manufactured products contributed to the price rise. However, it was the manufactured products group which exerted the maximum pressure on the price index. During the first quarter of the current fiscal year, although prices continued to rise, the percentage increase both on a point-to-point

(Continued on page 34)

Rheumatic heart disease

Dr. Rajen Tandon

The author, a leading cardiologist, here talks of the rheumatic heart disease including the rheumatic fever and suggests preventive and protective measures. He says except heart disease all other aspects of rheumatic fever do not cause permanent fever.

"RHEUMATIC FEVER LICKS the joints but bites the heart". Rheumatic fever is an acute inflammatory disorder characterised by specific symptoms and signs, initiated by infection of the throat by a group of bacteria called "group A Betahemolytic st.eptococci."

Prevalence

Rheumatic fever is a world wide phenomenon. It affects both sexes equally. The most common age when the fever attacks is between 5 to 15 years, though it can occur at any age. Population surveys in India indicate its prevalence to be around 2 per thousand.

20 to 50 per cent of all cardiac hospital admissions are for rheumatic fever induced heart disease. Survey in children indicates its prevalence to be 5.3|1000 children between the age of 5 to 15 years in India.

Predisposing factors

(1) Unhygienic living conditions.

(2) Undernutrition & malnutrition.

(3) Over-crowded living conditions.

Adverse features of rheumatic fever

(1) It affects the heart in 60 to 70 per cent cases. The resulting heart disease is in general permanent.

(2) The heart disease is acquired in childhood and the suffering lasts for the rest of the life.

(3) Rheumatic fever has a tendency of recurrence. If heart disease is present it will get worse with each recurrence. If heart disease is not present, it can occur with a recurrence.

(4) Rheumatic fever can be prevented, but if it has occurred in a child it cannot be cured.

(5) The diagnosis depends on clinical findings which overlap with some other diseases.

(6) There is no investigation which is diagnostic for rheumatic fever.

(7) The diagnosis is possible during the acute phase. However, if the heart is not involved the diagnosis in retrospect may not be possible.

(8) Once the heart is damaged, medicines cannot cure this heart disease.

(9) Operative treatment for rheumatic heart disease is also not a "Cure".

(10) Once rheumatic fever has occurred, prevention of further attacks will have to be continued life long (ideally).

Features indicating rheumatic fever

10—15 days after the onset of the fever, streptococcal sore throat is followed. This fever is accompanied with joint pains with or without swelling, heart involvement, skin rash, nodules below the skin and abnormal movements of the body indicating brain disease.

(a) Joint disease : Occurs in 90 per cent cases. Large joints like ankle, knees, elbows and wrists are involved; uncommonly smaller joints of hands or feet may be involved. Only subjective pain (arthralgia) may be present or the joint may be swollen, hot, red with limitations of movement (arthritis). The pain and

swelling come on quickly and subside spontaneously within 5 to 7 days. Generally multiple joints are involved in an episode although only one joint may be involved at one time. There is no residual damage to the joint.

(b) Heart disease : Occurs in 60-70 per cent cases. Starts early in the course of rheumatic fever. All layers of the heart are involved—the covering called pericardium, the heart muscle called the myocardium and the heart valves. The damaged valves result in leaking of blood. Over a period of time the valves may get fused resulting in obstruction to flow of blood. Damaged myocardium results in poor pumping function of the heart. Heart damage is permanent.

(c) Nodules below the skin tend to appear 4 weeks after the onset of rheumatic fever. They are not painful. They last for a variable period of time and then disappear, leaving no residual damage.

(d) Brain involvement manifests as abnormal jerky purposeless movements of the arms, legs and the body. They result in difficulty in walking, eating, writing or any finer movements. This manifestation is more common in female childern. It lasts about 6 weeks and gradually disappears leaving no residual damage.

(e) Skin : Various types of skin rash is known due to rheumatic fever. Perhaps because of the darker complexion, the rash is rarely identified in our country.

It is thus obvious that except heart disease all other manifestations of rheumatic fever do not cause permanent damage.

Investigations

The investigations for the diagnosis of rheumatic fever are confined to two aspects : (i) To indicate the presence of an active disease (non-specific) ; (ii) To indicate the presence of streptococcal infection or recent streptococcal infection (non-diagnostic). There is no test which will conclusively prove that the child has rheumatic fever.

Treatment

Once initiated rheumatic fever cannot be "cured" by medicine. The treatment consists in (i) bed rest, (ii) nutritious diet, (iii) Penicillin therapy, (iv) suppressive drugs, (v) management of heart disease, if present, (vi) rehabilitation of the patient if heart disease is present.

Rheumatic fever runs a course of about 12 weeks in 80 per cent of the patients. In 20 per cent it can be longer. Suppressive treatment is indicated for 12 weeks. Suppressive treatment reduces the inflammation but does not cure it. The two drugs used for suppressive treatment are Aspirin and Corticosteroids. Aspirin has a weaker suppressive action than steroids, but has less complications compared to steroids. We prefer to use steroids in those patients who have heart involvement, reserving aspirin for those who do not have heart involvement.

The damaged heart

Two parts show specific persisting damage—the heart valves and the myocardium (heart muscle). There is no specific medical and|or surgical treatment for the damaged myocardium.

If valves have become obstructive the obstruction can be relieved by operation. If the valve is leaking the valve may be repaired or it may have to be changed. Rheumatic valve damage is such that valve change is more likely than repair, but the decision is possible only at the time of operation.

The commonest valve damaged is the mitral valve. This valve lies between the left side atrium and ventricle. The next commonest valve affected is the aortic valve, lying between the left ventricle and aorta. Both are involved in about 25 per cent cases. Mitral valve is involved in all those who have rheumatic heart disease.

Indications for operation

The indication for operation is when the heart is not able to cope with the requirements of the body at rest or at work.

Milder damage of the valves is compatible with a no mal life span. As such every patient with heart disease is not a candidate for operation. The patients require to be followed up by the physician at six monthly or yearly intervals. Electrocardiograms, X-rays and other investigations may be required from time to time. Depending on the symptoms of the patient and findings the physician decides as to when an operation is necessary (Physicians believe that God-made valves are better than man-made valves).

Prevention of rheumatic fever

It must be reemphasized that rheumatic fever is preventible, but once it has been initiated it cannot be cured.

Most of the developed countries have been able to control rheumatic fever and rheumatic heart disease. The decline appeared even before penicillin became available.

Non-medical means of controlling rheumatic fever are related to improving living conditions and socio-economic status :

(1) Improve sanitation & hygiene.

(2) Improve nutrition.

(3) Prevent over-crowded living.

(4) Awareness regarding hazards of sore throat and the specificity of preventing heart disease by penicillin.

Specific prevention

Specific prevention is possible with the use of penicillin.

Ideally a sore throat should be swabbed and cultured. If streptococci are present the child should be

put on penicillin. Since facilities for throat culture are not easily available, it is justified to treat a sore throat with penicillin even without having the culture. For this purpose one injection of penicillin containing 3,00,000 units of crystalline, 3,00,000 units of procaine and 6,00,000 units of benzathine penicillin is enough (available as one injection). Alternatively, 4,00,000 units of procaine penicillin may be given twice daily for 10 days.

If a patient has had rheumatic fever, prevention of further attacks is possible with injections of Benzathine Penicillin given every 2 or 3 weeks. This will have to continue (ideally) life long. Less than ideal would be to continue upto the age of 35 years. The injections are painful, but the pain is less than life long suffering due to heart disease.

Benzathine penicillin

12 lac units, intramuscular, every 21 days—17 injections per year. Cost of penicillin Rs. 67|- per year.

6 lac units, intramuscular, every 15 days = 26 injections per year. Cost of penicillin Rs 57|- per year.

Note

Adverse reactions to penicillin are very rare in children. Adverse reactions to Benzathine penicillin are also very rare.

"Prevention is better than cure." Fortunately, rheumatic fever can be prevented but unfortunately, it cannot be cured. Protect your child's heart.

1. Do not neglect sore throats.
2. If a child complains of joint pains consult doctor immediately. The diagnosis may n be possible in retrospect.
3. If one child has sore throat, all childre should be checked. Streptococcal infection contagious, but rheumatic fever is not.
4. Unexplained fever—even in the absence joint pain symptoms—can be rheumat fever.
5. A fever associated with chest pain or follo ed by palpitation or shortness of breath a child could be rheumatic fever.
6. If the child has had rheumatic fever it is t responsibility of the parents to ensure con nuation of penicillin to prevent furth attacks of rheumatic fever and furth damage to the heart.
7. Penicillin injection given every 3 weeks m cause pain only for 17 days in a year. given every 2 weeks the pain is only 26 days in a year).

This is certainly a much better proposition th suffering every day for the whole life. □ (Based public lectures series of All India Institute of Medi Sciences, New Delhi).

(Continued from page 6)

velopment of the oil fields discovered will be continued. A significant development is the increase in recoverable gas reserves; these are 475.3 million cubic metres (435.2 million tones of oil equivalent). Their optimal exploitation is under the consideration of the Government. Increase in refining capacity particularly linked to the crude that will have to be imported will depend on the world situation of availability of products as against crude oil.

Energy conservation

Earlier we have mentioned about the potential for energy conservation. The progress so far has been slow. The reasons are :

(a) Energy pricing policies that have not encouraged economy and efficiency in the consumption of power and coal;

(b) Delays in initiating studies to assess energy conservation potential, investment requirement and priorities;

(c) Lack of ready access to suitable, reliable equipment, technical information and support;

(d) Lack of an industrial framework that is capable of coordinating the planning and implementation of a comprehensive energy conservation programme: and

(e) Weak institutional research and extension programme.

The above impediments are now sought to be moved through the creation of an Energy Conservat Fund and a high powered body to provide leaders and a sense of direction and urgency to the en programme in an integrated manner.

Nuclear energ

The installed capacity of nuclear power station 1095 MWe. A capacity of 1175 MWe is under c struction and with this the total will be 2270 M It is now suggested to take up additional 12 × MWe and 10 × 500 MWe units with a view to achi ing a capacity of 10000 MWe by the end of 200 mere 10 per cent of the power capacity. This modest target as compared to 41 per cent for Taiw 27 per cent for Japan and 41 per cent for Ko Recent studies reveal that a nuclear power statio compared to a coal based thermal station is che by 30 per cent to 70 per cent except in those count where coal is available cheaply. Considering the re escalations in plant and equipment costs of a ther plant, the coal prices and the problems in its transp a similar situation will arise in our country when a from the coal mines a nuclear project will be n economical than a thermal station. However, cc derable organisational efforts will be required to the present completion period of about 14 year 8 years.

New sources of ene

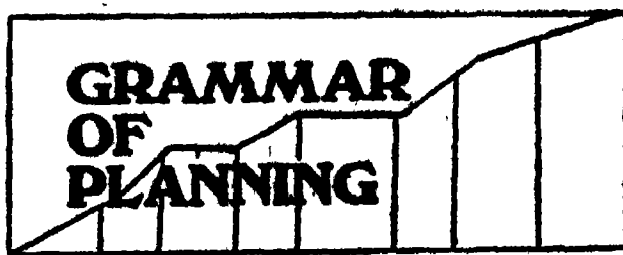
In the Seventh Plan, an ambitious programm being drawn up for implementing the schemes biogas, windmill and solar energy □

1983 Demographic estimates for Asian and Pacific countries in the ESCAP region

Country and region	Mid-1983 population (thousands)	Average annual growth rate (per cent)	Crude birth rate	Crude death rate	Total fertility rate
ESCAP	**2 621 318**	**1.73**	**27.7**	**10.5**	**3 5**
EAST ASIA	**1 204 189**	**1.28**	**20.3**	**7 6**	**2.4**
China	1 037 862	1.33	21 1	7.8	2.5
Hong Kong	5 313	1.50	16.5	4 9	1.9
Japan	119 260	0 68	12 9	6.1	1.8
Mongolia	1 803	2.65	33.6	7 2	4 8
Republic of Korea	39 951	1 58	22.6	6 0	2.6
SOUTH-EAST ASIA	**381 895**	**1 99**	**31 0**	**11.0**	**4 0**
Brunei	209	4 23	29 8	3 9	—
Burma	35 483	2.00	34.0	14 0	4.7
Democratic Kampuchea	6 888	2 85	45 1	19 3	5 1
Indonesia	159 434	1.75	30.3	12 9	3 8
Lao People's Democratic Republic	3 941	2 28	40 5	15 5	5.8
Malaysia	14 736	2 23	28 6	6 4	3.5
Philippines	52 095	2 47	32 0	6 8	4.2
Singapore	2 502	1 20	17.3	5.2	1 7
Thailand	49 568	2 05	28.2	7.6	3 5
Viet Nam	57 039	2.01	31.7	10 9	4.3
SOUTH ASIA	**1 011 463**	**2 16**	**35 5**	**13.8**	**4.7**
Afghanistan	14 284	2.25	49 4	26.9	6.9
Bangladesh	95 830	2.72	44.5	17.3	6 1
Bhutan	1 360	2 03	38.3	18 0	5.5
India	729 704	1 97	32.9	13.2	4.3
Iran	42 518	2.97	39 7	10.0	5.6
Maldives	168	2.78	44.5	12.9	—
Nepal	15 738	2 33	41 5	18 2	6.2
Pakistan	96 227	2.73	42.3	15.0	5.8
Sri Lanka	15 634	1 83	26 8	6.6	3.3
PACIFIC	**23 771**	**1 75**	**20.5**	**8.4**	**2.7**
Australia	15 406	1.58	15.8	7 6	2.1
Cook Islands	18	—0.41	26.3	6.3	4.1
Fiji	663	1.64	27 0	4.1	3.1
Guam	117	1 27	28.9	3.9	—
Kiribati	61	1.61	34.9	14.0	4.7
Nauru	8	0.00	—	—	—
New Zealand	3 203	1.41	16.2	7.4	2.0
Niue	3	—3.08	31.6	6.6	—
Papua New Guinea	3 508	2.68	40.1	13.4	5.9
Samoa	161	0.87	31.4	8.0	6 7
Solomon Islands	259	3.77	44.6	11.7	7 3
Tonga	103	2.07	37.9	9.0	—
Trust Territory of Pacific Islands	123	2.50	30.0	4.1	—
Tuvalu	8	1.28	34.8	7.6	2.8
Vanuatu	130	3.21	—	—	—

Source : ESCAP Population Division

P. R. Dubhashi

The implementation of planning

In the previous chapter, the author dwelt at length on the patterns of planning organisation, different in structure, strength and character—formulated to meet the needs of varied administrative and economic systems. Here he discusses the factors which are to be taken into account for successful implementation of planning programmes. The success of planning is not judged merely by its internal consistency or methodological sophistication, but by the extent to which the plan succeeds in its actual implementation. Implementation is an integral part of the process of planning itself, he says.

THE PROCESS OF PLANNING is not completed with the preparation of plan documents. Its consumption lies in its implementation. Implementation, therefore, is an integral part of the process of planning itself. There can be no dichotomy between formulation and implementation of plans. Indeed there is a continuum between plan formulation and implementation.

The success of planning should not be adjudged merely by its internal consistency or methodological sophistication, but by the extent to which the plan succeeds in its actual implementation.

If this is true, then it would not be correct to say, as is often said that the plan is all right but its implementation is defective. This alibi is frequently resorted to by the planners to cover the deficiencies in their own planning. Amongst the many constraints which wise planning has to take into account are constraints in the machinery of implementation of the plans. In the words of W. Arthur Lewis : "It is unquestionably a mistake to lead on to the administrative service a bigger programme than it can efficiently execute". Unrealistic assumptions regarding the capability of such machinery, must be considered to be one of the defects of the plan formulation itself.

Unrealistic planning

Unrealistic planning, projecting an impossibly high rate of growth, stretching ambitions beyond the limits of available resources, may result in the formulation of a plan which is not capable of implementation. In the words of W. Arthur Lewis : "Needs are unlimited, a plan based on needs rather than resources is an advertisement, a propaganda exercise rather than an instrument of control". He believes that the rate of growth of an economy cannot be immensely different at the end of the Five Year Plan period than from what it was at the beginning. Thus, unrealistically high targets are bound to create problems like bottlenecks in the supply of raw materials, plant and machinery, manpower and foreign exchange, the sum total of which may well result in a spiral of rising prices eroding the very basis of the plan itself. Like politics, planning is also the art of the possible.

Even if the plan is formulated in a realistic manner, the problem of its implementation still remains distinct and needs careful attention. As Barbara Wootton says : "It is stupid and inefficient to make a plan and then fail to carry it out Insofar as production of goods and services is deliberately planned, people, plant and material must be got together on the job of producing goods and services." The method of doing so consists either of legal compulsion and regulation or economic inducements.

If, at the stage of planning formulation, planning is mainly economic in nature, at the stage of implementation, it is mainly administrative and managerial. Indeed both have to be correlated.

The implementation broadly consists of three parts—first, formulation of the policies and their execution, second, formulation of programmes and their implementation, and the third, operational plans or the individual economic units and institutions.

Supportive policy framework

The aggregative targets of planning have to be supported by a suitable policy framework. The policy framework consists of a package of measures which

will help promote activities for the realisation of plan goals and at the same time hinder hindrances to such an effort. It is thus a package of promotional as well as regulatory measures. The latter would consist of both fiscal and physical measures.

In a centralised or totalitarian system of planing as in socialist countries, the reliance is, in the main, on physical control while decentralised and market-oriented planning for a mixed economy makes greater use of measures of incentive and inducement. To quote Bauchet, in the latter system, which he calls flexible planning, "in at least part of public sector the financial authority exercised by Finance Ministry over firms is probably as "impervious" as the means of application adopted in Soviet Planning. But in the rest of the economic field, the means of fulfilment—grants, loans, tax relief, public works contracts, are used indirectly and may be more properly described as incentives. Much is achieved by persuation by pointing out the advantage to be gained through participation in the system of development outlined in the plan."

The French planning

Should the sanction behind plan implementation consist of an elaborate and amplified structure of policies and measures or should it be selective or strategic in nature ?

The French planning stipulates that the number of means of enforcement should be limited if the Plan is to retain its flexibility. It is characterised by the twin features of small number of means of enforcement and greater reliance on financial measures. As Bauchet observes : "Fewer the decisions taken by a planning organisation, the more effective they will prove. This axiom has been corroborated in the centralised socialist economic systems and is truer still in the western ones out......Intervention is carried out indirectly through financial measures rather than by direct constraint......While constraint still has its value at times it should be used as rarely as possible."

While basic industries in the private sector are cleared as investment projects by Commissariat general du Plan, for other sector the clearance is given by the Directorate of Industrial Production Half the investments are financed by the Fund for Economic and Social Development by public loans. The general body of the Fund draws up an annual investment programme for each of them. Enterprises not dependent on public funds have greater operational autonomy.

Price control in cases of concentrated manufacturing activities and quasi contracts with the manufacturers of capital goods, which bind them to carry out a clearly defined programme of investment in return for financial support, are other methods of enforcement. There is also the device of programme laws as a part of the Act approving the Plan. They enable an enterprise to undertake work covering a number of years enabling the entrepreneurs to lay down long term investment policies and enter into terms with suppliers.

The policy measures in support of planning could be itemised as follows :

Planning by inducement

1. Fiscal and budgetary policies
2. Monetary and pricing policies
3. Wage and income policy
4. Banking policies

Planning through the physical controls

5. Licensing policies and capital issue policy
6. Policies regarding allocation of raw materials
7. Foreign exchange policies
8. Policies regarding procurement and public distribution

Planning through promotional measures

9. Policies regarding technical help and supervision
10. Training policies and supply of training facilities
11. Research and development.

Budget is an instrument of annual planning. Traditional budgeting is not quite suitable from the point of view of planning. Budgetary documents have, therefore, to be suitably altered so as to exhibit the allocation of resources for various planned programmes. Performance budgeting is a concept which is more in tune with the concept of planning.

Budget is not merely a statement of expenditure. It is also a set of measures of taxation, direct and indirect, and other ways of raising resources. Taxation not only provides a source of plan finance, it is, in addition, an instrument of encouraging and discouraging economic activities. It is also an instrument for redistribution of income and is, therefore, connected with the income policy of government. Taxation has to be used as a device for preventing the use of economic resources for production of goods and services which have a low priority in the plan scheme discouraging speculative economic activities or ostentatious consumption.

Crucial significance

The monetary and pricing policies are of crucial significance to the orderly process of planning. Planning with stability is a slogan of considerable practical significance. Wrong fiscal, monetary and pricing policies can lead to run away inflation which can completely erode the process of planning itself Where the pricing process itself is abolished, as in a socialist economy, planners may not have to bother with the problem of prices but the problem is bound to surface in other forms. A cheap money policy is necessary where one of the goals of planning is the revival of the economy. However, where economy is over heated, where the investment is greater than the savings available, where resources are inelastic, where

production is stagnant or shortages become chronic, a dear money policy together with selective credit control will be helpful in curbing inflationary tendencies.

Buffer stocks

One of the effective ways of controlling prices is measures for the building up of buffer stock of various final and intermediate commodities in order to support the public distribution system. The procurement of various commodities requires an executive machinery often known as food and civil supply organisation. The machinery has to provide a link between production and consumption. It has to procure goods at various points of production, store them and make them available through a network of public distribution system. Thus foodgrains and cotton will have to be procured from the farms while sugar, cloth or steel and cement may have to be procured from the factories.

The procurement price becomes an important issue of planning. Agricultural Prices Commission is set up to recommend prices for procurement of agricultural commodities which would be reasonable both to the producer and the consumer. However, it is not easy to fix prices satisfactory both to the producer and the consumer. From the point of view of curbing inflation, low prices would be justified. However, the producer must have an incentive and, therefore, would demand higher prices.

Procurement price

If the demands of the producers are conceded and higher prices fixed, the consumer may have to be subsidised. However, the cost of the subsidy must be borne by the public exchequer and this is difficult when the financial resources are barely adequate for planning.

One of the problems of plan implementation is the choice of agency for procurement and public distribution. A network of cooperatives can take up the responsibility provided they are honest and fairly efficient. Whether cooperative or state, if the machinery is ridden with inefficiency and corruption it can defeat the aim of public distribution system.

Wage policy

The wage policy is connected with pricing policy. Where prices and profits are kept under control, regulation of wages is possible. If, however, the condition is not fulfilled, labour more and more militantly organised through trade unions, is bound to demand higher wages leading to a snowball process of inflation with wages chasing rise in prices and rise in prices creating fresh demand for rise in wages. An integrated income policy has to be a built-in feature of planning.

Wages provide the price mechanism for the allocation of labour or manpower between the various occupations. Choice of employment being a fundamental liberty, industrial conscription or compulsory direction of labour may not be possible in ordinary times and wage differentials will be the instrument for adjusting supply of labour with demand. The planned economy is likely to make certain kinds of technical skills more and more scarce and these will have to be paid for at higher rates. On the other hand, arts graduates, fit to fill only clerical jobs, will attract lesser remuneration.

The wage policy may have to be supplemented by the institution of employment exchanges. In the words of Barbara Wootton, "Smooth distribution of labour in a planned economy would be facilitated by compulsory notification of all engagements and termination of engagements to the employment exchanges."

Role of banks

The banks have to play an important role in mopping up deposits and giving advances. The banks have to attract savings by offering better interest rates. But their efforts have to be within the framework laid down by the central banking authority. In a developing economy, which is also progressively monetised, there is a considerable scope for spreading the banking habit amongst the people who have never known banking before. The banking policies have to be in tune with the planning policies and bank advances directed towards the sectors to which the plans accord a priority.

It is more and more realised that the planning should not merely be confined to the budgeted resources. In planned economy, the bank resources have also to be mobilised to realise the goals of planning. Therefore, banks must produce plans which must find a place in and be integrated with the economic development plans as a whole.

French planning is based on linking banking activities with economic planning. Instead of being guided exclusively by traditional commercial considerations when granting loans, they would make their selection with a view to promoting schemes laid down as priorities in the plan and brought to their knowledge by direction on credit. The whole credit apparatus is placed at the service of the Plan's investment programmes and closely coordinated with budgetary policy, giving a unity of action.

Social control

One way of achieving integration of banking with the general economic policies is to exercise social control over the banking. The other alternative is the nationalisation of banks. Even in non-socialist countries like France, major banks have been nationalised. Following the example, India nationalised the 14 biggest banks on 19th July, 1969. But nationalisation would not solve all problems. It is still necessary for the banks to be so managed as to fill the objectives of planning without sacrifice of sound principles of banking and financial discipline.

Where all the means of production are not socialised and there is a substantial sector of private industry, the instrument of licensing policies and regulation of industry and monopolies are often employed to encourage enterprises of the right sort and

discouraging enterprises of the wrong sort. Thus licensing policy may aim at promoting labour intensive, small-scale, mass consumption goods industry as against capital intensive, monopolistic and luxury goods industries. Licensing policy may also aim at proper location of industry, e.g., to prevent further industrial pressure in an already over-crowded, encouraging industry in backward area, or creating employment opportunities where they are needed. One of the difficulties of such licensing policy is the delay involved in scrutiny of applications and the discouragement it causes to the industrial development. Planning authorities have, therefore, to take special care to keep licensing procedures efficient and prompt.

Capital issue policy is intended to see that capital is not allowed to flow in undesirable or less desirable sectors like luxury building or speculative enterprises. If capital market is left to itself too much capital would be sucked away for these purposes simply because those who float such enterprises are able to provide the necessary security.

Rationing of raw material

Just as rationing of consumer goods is necessary for just distribution of consumer goods, similar rationing of raw material is required for industrial development which is consistent with plan targets. Industries cannot reach the targets entrusted to them unless supply of raw materials is ensured. Where the raw materials are in short supply, there would be tendencies of the prices of such raw materials to rise, and if their prices are controlled there would be a tendency for them to disappear in the black market. Even socialised countries are not free from such problems. There is chronic tendency among enterprises in a socialist economy to keep huge piles of raw materials in short supply thereby further accentuating scarcities and increasing the difficulties of other enterprises.

It may also happen that while raw material or intermediate products are transported at a considerable cost to distant enterprises, they are not available to a nearby factory. Like the public distribution system of consumer goods, the allocation system of raw materials has also to be efficiently managed.

Where certain plants or machinery or raw materials are not domestically available, they have to be imported and imports require foreign exchange. A planned economy cannot allow foreign exchange resources to be freely drawn upon since they have to be conserved for realising plan targets. Foreign exchange allocation, therefore, becomes a critical part in the process of plan implementation. Sometimes foreign exchange for imports are linked up with ability to export. This may not be justified since this will unnecessarily discriminate against an industry which is of significance to the domestic economy though it may have little export potentiality.

Technical expertise

Technical supervision training facilities and research and development are some of the policies of critical significance for the promotion of activities though their importance may not always be recognised in the short run. Extension of technical knowledge is of a far greater significance for achieving the goals of planning than even financial assistance. In field of agriculture, Arthur Lewis has pointed out : "Investment of one per cent of national income in technical extension can raise national income by half per cent." Research and development contribute greatly to the introduction of innovations which can entirely change the production possibilities.

To some extent, problems of marketing are solved through the public distribution system. But, in addition, facilities like godown and storage and transport have to be made available including a system of marketing intelligence, grading and standardisation. Indeed, these have to be considered as one of the sectors of planning.

Programme execution

The policies have to be executed along with the execution of programmes. Programmes and projects have to be planned and designed in all sectors of the plan. They constitute the substance of planning. Programme planning linked up with aggregative economic planning has to be a constant activity of the executive agencies in a planned economy.

Formulation of goals and objectives, tasks and targets, schemes and programmes, arrangements of necessary inputs—from year to year, season to season—constitute administrative planning which has to go hand in hand with economic planning. For this, the executive agencies will have to use the various techniques of planning, like network analysis, critical path method and PERT. The members of civil service, who man the executive agencies, have to be trained in these new techniques. In the absence of a trained civil service, successful implementation of plan cannot be ensured. That is why W. Arthur Lewis has observed : "Development planning is hardly practicable until a country has established a civil service capable of implementing plans."

Plan goals cannot be realised even in a specific field as a result of the efforts of only one executive agency. It is necessary to coordinate the activities of a number of executive agencies and this coordination must result in meaningful sequence of activities properly synchronised so as to lead to timely result. Thus planning has to enter into the warp and woof of administrative and executive action throughout the entire gamut of public administration.

While programmes are intended to direct the efforts of individuals and institutions along plan channels, each institution or enterprise, whether in public, private or cooperative sector, must have a plan of its own which is consistent with the general framework of planning. Planning by an enterprise is a microcosm of national planning.

The manager of every enterprise has to be a planner. He must fix goals and targets with the framework of aggregative plan targets. The time table of activities, the necessary financial and physical inputs,

(Continued on page No. 34)

BOOKS

A Peep into tribal life

The Saora Highlander : Leadership and Development—By Bhupinder Singh; Somaiya Publications Pvt. Ltd. New Delhi. 1984. PP. 198. Price Rs. 90

FROM TIME-TO-TIME, there has been contribution to leadership and development by scientists belonging to different disciplines—psychology, sociology, anthropology, political science, etc. The latest addition to the subject is by Bhupinder Singh who examines leadership and development in the context of a little Mundari-speaking community, the Saora. It goes without saying that an understanding of the existing pattern of leadership among such an isolated tribal group would go a long way in promoting development programmes among them through case work, group approach, and community organisation The theme has been examined by the author holistically in the backdrop of total way of life and culture of this simple community—establishing a part-whole relationship. Through this approach the distinction between the 'mono-morphic' and 'polymorphic' types of leadership becomes very scientific.

The book brings out many of the conceptual and methodological issues. It is divided into seven main chapters besides three appendices. The foreword to the book has been written by Haimendorf.

The book starts with the description of the Saora culture in the context of their economic, social, political, religious organisation, etc. followed by a discussion on the geographical setting of the tribe in chapter two. Theoretical and conceptual aspects of leadership are the main theme of chapter three. Appropriately, relevant contributions of other well-known authorities on the subject have sharpened the focus of the author's theoretical orientation. It has helped in anlysing the types of levels of leadership (chapter four), followed by deliberations on political affairs and leadership. In the last chapter of the main body of the book, the characteristics of leaders and their influence on village development have been the main theme in which social, demographic, economic, psychological, political characteristics, etc., have been discussed appropriately. Before unfolding his conclusions, the author gives a resume and present the status of the Saira community in the context of a dynamic socio-economic and political scene of the country.

After going through the book one cannot but commend the author for planning and conduct of the study, synthesis of the synchronic material with the diachronic and scientific precision. He is one of those few who have, in recent times, revived the erstwhile tradition of civil service by uniquely combining scholarship with administration. Such a tradition would go a long way in incisive comprehension of the latent as well as the apparent problems of planning and administration of tribal development programmes with all their ramifications. It would further help develop a functional approach to the totality of the situation. The insight of perceptive administrators can facilitate interpretation of both qualitative (ethnographic) and quantitative data in a meaningful manner.

The book contains tables, diagrams, maps, charts, and photographs which act as suitable illustrative material. Written in a lucid style, the book would be found useful by students of society and culture as also those connected with tribal development administration.

Priced heavily, genuine researchers may be deprived of a personal copy for frequent reference. Would it not be worthwhile to bring out a paper-back edition to suit the common man's pocket?

B. N. Sahay

The aspects of foreign exchange

Principles of Foreign Exchange : Vol I & Vol II. By AK. Chatterjee; Himalaya Publishing House, "Ramdoot", Dr. Bhalerao Marg, Bombay: 400 004, 1984; Pages 719 & 389 Price : Rs. 125 & Rs. 80

MR. A. K. CHATTERJEE, FACULTY MEMBER Northern India Banks' Staff Training College (New Delhi), has, in this two-volume book, undertaken a wide scrutiny into the various and varied aspects of foreign exchange business. As both foreign exchange and international trade are inseparable, the author's inclusion of such recent events as UNCTAD VI, global liquidity and external debt of LDCs in this revised and second edition is commendable. He has taken care to explain elemental theories and concepts of foreign exchange, exchange rate, international trade, IMF, World Bank, IFC, IDA, OECD, OPEC, GATT and UNCTAD. Though theories of trade and exchange rate systems abound in these volumes, they do not detract the scope and utility of the book.

Under the chapter dealing with foreign exchange market and rates, the author has explained in enough detail as to how foreign exchange rates are computed and factors that cause fluctuations in exchange rates. Even recourse to mathematical models does not deprive the basic simplicity and cautionary approach of the author in that such an exercise is purported not to cloud the grasping capacity of the reader but to inculcate the rudiments of the subject taken up.

Mention must be made of the chapter dealing with contracts, credit and documents. The discussions spanning some ten useful chapters include specific credit documents such as transport documents, foreign drafts and insurance documents. Discussion of general aspects of sale and purchase

contracts, definitions, functions and types of documentary credits, contract between credity party, important credit clauses, procedure for issuing credit, specific documents mentioned above and arbitration and conciliation also follows.

This part of the book is not meant only to those who are interested in a study of this aspect of foreign exchange but also to those who have to deal with this subject in a pragmatic manner. Chapters on exchange control and trade control are also executed with great care and circumspection.

Besides, the book also encompasses various aspects of foreign exchange like institutional finance, role of the Central Government in export promotion, export finance, role of credit insurance agencies and off-shore banking and non-resident investments. Despite some overlapping in the discussion on foreign exchange markets and rates in Volume I of the book and an analogous section in Volume II, the fact that the author has shown scrupulous caution in including the latest developments is also borne out by the inclusion of customs and practice for documentary credits 1983 revision, though as an appendix.

While the overall usefulness of these two volumes as a *vade-mecum* for aspirants to the banking career as well as senior managers and people interested in foreign exchange system and international trading system is simply in disputable. The rather high cost of the book deters interested readers from buying these volumes as reference material and this can be solved if the publisher or author takes up interest in dovetailing these two volumes into one and inexpensive paper-back edition.

G. Srinivasan

(*Contd. from Page No.* 29)

plans for the procurement of these finances and inputs, inventory planning, manpower planning etc., constitute the elements in the corporate plan of every enterprise. Every enterprise must have a budget of its resources so as to ensure maximum return from finances, raw material, manpower, floor space, etc.

Such corporate planning is possible only if enterprises are run by professional managers well versed in techniques of management. To augment such managerial talent is one of the goals of planning. As W. Arthur Lewis says, "given such professional management, public enterprise can be as dynamic as private enterprise."

Economists tend to confine the discussions of planning only to the aggregative aspects, or only to their formulation. The administrators or managers are bothered only about their own difficulties. What is required for successful implementation of plans is link up of macro planning of economists with micro planning of administrators and managers.

(Next Issue : The Process of Planning)

(*Contd. from Page No.* 17)

of the labour inputs, the distributional aspect is taken care of. This will gradually eliminate the need for special programmes for rural and urban populations. In the present situation, the assetless rural and urban population does not find gainful employment and even if the people get employment, the income is so meagre that it does not provide enough to reach the threshold of the poverty line. We have, therefore, the 'unemployed poor' and the 'employed poor'. The 20-Point Programme's main thrust is on improving the living conditions of this group of people. It has to be a time-bound targeted approach to become effective in solving the major problems of the economy. The scheme of economic democracy would give priority to the problems of poverty.

(Contd. from page No. 11)

change surplus and a balanced structural growth of the economy.

The extent to which we have been able to achieve these objectives in recent years has however been limited, for after all the export-import account of a country is also largely dependent on the state of its structural equilibrium, its rate of real vis-a-vis absolute economic growth, and the status and prestige its currency commands in international trade, commerce and money market. In all these respects, we have unfortunately not been doing very well in recent years.

(Contd. from page 24)

basis and on an average basis was less than in the same quarter of the previous year. With the exception of pulses and edible oils, most of the other essential commodities like cereals, fruits and vegetables, milk and milk products, sugar, khandsari and gur recorded smaller increases in prices during the first quarter of the current year as compared with the same quarter last year.

The all-India consumer price index rose by 11.2 per cent during the year 1983-84, as compared with a rise of 9.8 per cent in 1982-83. On an average basis, the increase was 12.6 per cent, as against 7.8 per cent in 1982-83. □

Indrail Pass Tickets

Indrail pass tickets have earned up to March 1984 a sum of $ 69,65,316 (US Dollars) from foreign tourists. During the period April 1983 to March 1984, a record number of 8,410 Indrail Pass tickets were sold giving the Railways an earning of $ 9,73,031 (US Dollars).

The scheme was introduced in June 1977 to facilitate rail travel of foreigners visiting this country. Efforts are afoot through our foreign missions to make the scheme more popular.

India to attain self-sufficiency in zinc

WITH THE DISCOVERY of the largest and richest deposit of Rampura-Agucha in Bhilwara district (Rajasthan) having 60.35 million tonnes of ore with 13.48% Zinc metal and 1.93% Lead metal content the country will reach near self-sufficiency in Zinc and reduce the import bill of Lead substantially. This was disclosed by Shri N.K. Panda Additional Secretary Union Department of Mines in New Delhi recently.

The Central Government is considering an integrated proposal of Hindustan Zinc Ltd. for development of new mines of Rampura-Agucha and Baroi and setting up of a new Lead Zinc smelter complex near village Chanderiya in district Chittorgarh (Rajasthan). With the commissioning of these new projects the country will make a breakthrough towards self sufficiency in Zinc and substantially cut down Lead imports.

At present there is a wide gap between indigenous demand and production in the country. During 1983-84, the total import of Lead amounted to 24,091 tonnes and of Zinc to 49,112 tonnes. The estimated imports of the two metals during 1984-85 is 35,000 tonnes Lead and 55,000 tonnes Zinc.□

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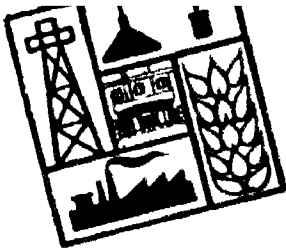
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Space technology for India

NEXT ISSUE

Testing voluntary agencies

Over 20 million tonnes of foodgrains in stock

A TOTAL OF 20 062 MILLION TONNES of foodgrains were available in Government stocks on October 1, 1984. Out of this, rice accounted for 3.159 million tonnes, wheat for 16.872 million tonnes and coarse grains for 31 thousand tonnes. On the same day last year, the Government had 14 011 million tonnes of foodgrains in its stocks, out of which the share of rice was 1.899 million tonnes, wheat accounted for 12.01 million tonnes and coarse grains 1.02 lakh tonnes. Never before on this date, such a large quantity of foodgrains was available in Government stocks. This exceeds even the largest ever stock of 19.844 million tonnes available with the Government on October 1, 1979. During this year, the largest stock of foodgrains available with the Government was on August 1, 1984 when the quantity exceeded 22.4 million tonnes.

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For new subscriptions, renewals, enquiries please contact . The Business Manager, Publications Division, Patiala House, New Delhi-110001.

Our Contributors

Justice P. N. Bhagwati—Judge, Supreme Court of India, New Delhi; Madhukar Gupta.—Deputy Secretary (Rural Development), Planning Commission New Delhi ; Vasant Sathe.—Union Minister for Chemicals and Fertilizers, New Delhi; S. Setty and S Krishnamurthy.—Asstt. Scientific Secretary and Scientist respectively, Indian Space Research Organisation (ISRO), Bangalore ; P. Bhattacharyya.—Information Officer, USSR Information Centre. New Delhi ; P. R. Dubhashi.—Director. Indian Institute of Public Administration, New Delhi ; and Dr. M. C. Maheshwari.—Professor and Head, Deptt. of Neurology, All India Institute of Medical Sciences, New Delhi.

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Strategy for removal of poverty

Justice P.N. Bhagwati

The conventional welfare approaches have had the opposite effect of perpetuating and reinforcing the dependency and powerlessness of the poor. It is, therefore, necessary to develop the alternative strategy of organising the poor so that they are able to act on behalf of their own interest individually as well as collectively, says the author.

I AM CONVINCED that if we want to bring about change in the social and economic structures that are responsible for poverty and ignorance, it is absolutely essential to operate through social action groups.

Our society is still a status oriented and caste-ridden with marked inequalities among the different strata of society. These social inequalities interact with economic inequalities and in the process, each strengthens the other. The result is that the element of assertiveness on the part of the poor is largely absent.

Non-participation of poor in development

The poor are unable on account of their poverty to participate effectively in the political process at various levels and the direct consequence of this is that though legislation presumably intended for their benefit is passed by the legislatures, it is often hedged in by qualifications and exceptions and does not go far enough to meet the needs of the poor and, if I may say so, bluntly, it is willing to strike but afraid to wound powerful sections of the community. Even where there is well drafted comprehensive legislation, such as, the Contract Labour (Regulation and Abolition) Act, the Bonded Labour System (Abolition) Act and the Inter-state Migrant Workmen (Regulation and Condition of Service) Act, it is often not properly and effectively implemented in the interest of the poor and disadvantaged persons for whose benefit it is enacted.

Much of the socio-economic legislation passed by the legislatures has remained paper tiger without teeth and cloth. Even various social and economic rescue programmes initiated by the Central and State Governments through administrative measures have not been successful in making changes in the life conditions of the weaker sections of the community. There have been cases where some of these legislative and administrative measures have benefited the people but the benefits have been confined to the upper crust of weaker sections and they have not reached the lowliest amongst the low and the weakest amongst the weak.

Strategy for social action group

Our social action groups have, therefore, to evolve a strategy which is directed towards bringing about change in the social and economic structure which are responsible for the creation and perpetuation of poverty and denial of justice to the large masses of people. First and foremost it is necessary to make socio-legal investigations for identifying what are the injustices from which the deprived and vulnerable sections of the community suffer within the geographical area of their operation, what are the deprivations of basic human rights to be suffered by them and what are to social and economic entitlements whether under legislative or administrative measures which do not reach them. The social action groups should also ascertain by socio-economic survey as to whether there are any detrimental effects on the poor of the policies and programmes of the government as also whether there are any inconsistencies between its policies and actuations on the one hand and the aims and principles it professes on the other.

Excerpts from the inaugural address of a seminar on Effective Uses of Law by Social Action Group held recently in New Delhi.

The second arm of the strategy to be adopted by social action groups is education of the poor and the disadvantaged. The poor must be made aware of the rights and benefits conferred upon them by socio-economic legislation as also by administrative, social and economic rescue programmes. They must be shown how these rights are often inadequate or inadequately enforced and the social action groups must search with them for the causes of these inadequacies and together they must devise legal and social solutions.

Then another arm of the strategy and by far the most important arm is to encourage the poor to organise and mobilise themselves, to urge them to co-operate with other groups similarly situated and to motivate them to invent and use meta-legal tactics to supplement and strengthen standard legal tactics to change law and society. Stephen Wexler said :

> "Poverty will not be stopped by people who are not poor. If poverty is stopped, it will be stopped by poor people. And poor people can stop poverty only if they work at it together."

Measures to fight poverty

The poor and the oppressed must rely on their own efforts and not on lawyers—not even on social action groups to fight poverty and to change their life conditions. Their efforts must be organised to be effective not only because of the strength of members but also because the poor have been alienated from each other as much as from the elite, they are subject to the same temptations and suffer from the same frailties as all men and they have to learn to work together since in the end they will attain development only by that self-liberation that generates social liberation.

It is only if the poor are organised effectively that they will be able to overcome the sense of importance—the most serious obstacle to development—that centuries of oppression have instilled in the poor and replace it with a sense of power that will release the creativity and the drive imminent in them as in every man. It will not be enough to adopt measures limited by a commitment to an amelioristic approach to the problems of poverty. This approach has often been structured quite openly as a complement to "trickle down" economic growth policies. Its apparent function has been to ameliorate the problems of the poor to gain time until real growth reached them. But it is common knowledge that the trickle has been insignificant. It has been limited to that which has been able to get through a small cracks in the dams of poor, social and economic, dams which have everywhere been deliberately erected to block the flow. It is, therefore, necessary to develop the alternative strategy of organising the poor so that they are able to act on behalf of their own interest individually as well as collectively. The conventional welfare approaches have had the opposite effect of perpetuating and reinforcing the dependency and powerlessness of the poor.

The Legal Services Programme must avoid creating perpetual dependency and helplessness on the part of the poor and to make them instead self-reliant. Self-reliance depends upon knowledge and power. Knowledge comes with education of the rights and benefits and power comes only through organisation. It is, therefore, through organisation that the poor can become powerful and they can fight injustice on their own.

Organising the poor and preparing them for confrontation against unjust practices, unjust rules and unjust institutions and helping them to work for basic institutional changes will help to change them, to make out men out of them. If I may quote the words of Professor James S. Coleman in his book "Race Religion and Social Change";

> "Participation in revolutionary action transforms the previously apathetic masses, by giving them a goal and the hope of achieving the goal. The revolutionary action itself and the rewards of success it brings to hard work create man who are no longer bound by traditional customs, inhibited by ascribed authority patterns, and made apathetic by lack of hope. This psychological transformation...... is a necessary prerequisite to social and economic transformation." □

Early settlement of ESI cases

THE EMPLOYEES STATE INSURANCE CORPORATION has been asked to settle all cases of permanent disablement and dependent's benefit within three months. The Corporation has been advised to establish special medical board to clear the cases. At present there are 2'34 cases of disablement benefit and 108 cases of dependent's benefit pending for settlement.

The public sector construction companies are likely to be given contracts for construction of hospitals and dispensaries as the existing process takes longer time. For this purpose a committee will be constituted in the Corporation to oversee the construction activities.

The Corporation will undertake an employee's family welfare project with the assistance of United Nations Fund for Population activities in the States of Uttar Pradesh and Madhya Pradesh.

The ESI now provides medical care to 2.8 crore beneficiaries through 472 centres and spends about Rs. 189 crore on various benefits against an income of Rs. 225 crore annually. □

BIS. B 273

Impact of various schemes on village economy

Madhukar Gupta

An important point in the entire process of rural development is the adoption of the "focal point" approach or the growth centre approach. The author emphasizes that this will lead to a gradual urbanization of the rural areas.

EFFORTS AT THE GROWTH and development of different sectors of the economy over successive Plan periods had still left-over 50 per cent of the population below the poverty line at the inception of the Sixth Plan, the vast majority being in the rural areas.

While the number of agricultural labourers had increased from 27 million in 1961 to 47.5 million in 1971 and 55.37 million in 1981, the number of days for which employment was available in a year to rural workers had declined by 10 per cent for men, 7.5 per cent for women and 5 per cent for children between 1964-65 and 1974-75 as shown by the Rural Labour Enquiry Report. Clearly, the agriculture sector was getting over crowded. On the other hand, employment in the household industries sector had not shown a significantly positive growth trend. The National Committee on the Development of Backward Areas (NCDBA) in their report on Village and Cottage Industries has shown that there was actually a decline in participation rates of male workers in this sector between 1961 and 1971. Although there were controversies arising from intercensual definitions, the 1981 census results generally confirm this trend.

It is evident that the number of landless persons in the rural areas is growing, the unorganised sector has not been able to absorb the growing labour force, and the organised sector, while competing with the former has itself shown a limited capacity to absorb additions to the work force. It would appear that the growth of rural ecomy has not come up to expectations in terms of its capacity to sustain the population. Now therefore, large-scale wage and self-employment opportunities will have to be created in the rural areas and the base of the rural occupational structure will have to be diversified.

The views expressed here in are that of the author and not o the Planning Commission.

Review of ongoing programmes

Through a number of Special Programmes, efforts are currently being made, on a country-wide basis, to increase the income levels of the poor and reduce unemployment|underemployment over a widened occupational base.

These are : (a) The Integrated Rural Development Programme (IRDP) including the National Scheme for Training of Rural Youth for Self-employment (TRYSEM), (b) the National Rural Employment Programme (NREP)|Rural Landless Employment Guarantee Programme (RLEGP), and (c) the Cottage and Village Industries Programme of the KVIC. These Programmes are briefly reviewed here.

Integrated Rural Development Programme

The progress under the IRDP would show that the physical target of covering 15 million households in the Sixth Plan, is likely to be achieved. But the Programme as implemented so far has brought out some important limitations, both in qualitative terms and in terms of its impact on the rural economy as a whole.

There has been overwhelming concentration in the sphere of milch cattle, and reviews of the programme reveal a somewhat unsuccessful search for new types of innovative schemes. Now, with con-

scious discouragement in the Animal Husbandry sector and, the launching of the Massive Programme for Assistance to Small and Marginal farmers in 1983-84 (which effectively takes away the other major primary sector activities, such as minor irrigation, etc. from the scope of the IRDP), the situation in regard to selection of schemes has become still more difficult.

It is stipulated under the IRDP that 33 per cent of the beneficiaries should be assisted in the secondary and tertiary sectors. This is the Industries Services Business (ISB) component of the Programme In the last two years, there has been a marked improvement in the coverage under this segment of the Programme, but there are still some major areas of concern. Preliminary observations of the Programme Evaluation Organisation of the Planning Commission, indicate that Progress in the Secondary Sector was nominal and in the Tertiary Sector, concentration had been mainly on small business—small shops, etc.—and some services such as rikshawpulling, bullock carts, etc.

The performance under TRYSEM which is expected to provide productive and entrepreneurial skills to 40 youths per block per annum, largely under the ISB component of the IRDP, shows while the quantitative targets for training have been achieved, only 50 per cent of those trained have been able to get settled in any avocation. The tradewise breakup is not available, thus making it difficult to assess the real impact of the programme. A tendency to concentrate on a few activities like tailoring and knitting, and on services based on new skills such as electric wiring, welding, fitting, etc. has, however, been observed. Activities based on traditional skills have not always found a significant place in the Programme. In fact the KVIC which was to take up 50 beneficiaries per annum in each of the 5092 blocks under this programme, is now expected to cover only 500 blocks in the whole country in the Sixth Plan period. As for the services, there are no demonstrable linkages between the number of persons trained and the area requirements and absorption capacity. This is evidently due to the fact that the existing training institutions such as ITT's, Polytechnics, etc., generally provide for a limited number of activities with an eye on feeding the larger urban and industrial centres and, are not equipped for activities germane to the local environment and skill base on a significant scale

Within this overall scenario, the IRDP, prima facie suffers from a grossly deficient average per capita investment which was Rs. 3201 in 1983-84 (Rs. 2500 till 1982-83). With the average per capita income level of the Poverty Group at Rs. 46 per month (this would be lower in the case of the poorer among the poor), even with an optimistic ICOR of 2, this level of investment will not suffice to carry the beneficiaries above the Poverty Line, except those who may already be near it by virtue of their existing land or asset base (and therefore would, perhaps, not figure significantly in unemployment estimations).

This deficiency is compounded due to the absence of the required backward and forward linkages, which has adverse effects on potential of the assets endowed.

Because of these limitations coupled with some of the known malpractices such as "benami" transactions, as noticed in the case of livestock in particular, the IRDP though conceptually sound, would in its present form appear to have a relatively limited impact by way of net additional asset creation, value addition and overall increase in productivity of the rural economy. The current attitude of the sectoral departments towards the anti poverty programmes as something distinct from production programmes, would have to undergo a conscious change in this context.

NREP and RLEGP

The National Rural Employment Programme/Rural Landless Employment Guarantee Programme essentially aim to provide supplementary wage employment opportunities to those who are presently unemployed or underemployed. In the long run such programmes can be viewed basically as the means for providing grants for sustenance unless, they can, through the creation and development of economic and productive infrastructure, augment long term employment opportunities, both in agriculture and the non-agricultural sectors and, meanwhile, provide a minimum reasonable period of employment to the most needy i.e., the landless and assetless, together with accompanying asset endowment under Programmes like the IRDP. For the former, as of now, no projections are available and the tendency to spread the works, wide and thin, is going to affect this aspect of the programme adversely. The latter is not assured in the current programme guidelines except of a limited extent under the RLEGP, and in any case there is no convergence in determining the beneficiary clientele under the IRDP and the NREP/RLEGP. Significantly there is no provision for maintaining a roster or other record of the persons to whom employment is actually being provided, and the total mandays of employment generated in a year continues to be the only criteria, though evidently insufficient, for measuring the impact. In the meanwhile, these programmes hold a significant inflationary potential unless accompanied by adequate availability of essential commodities and other wage goods in the rural areas. It may be mentioned here that although the RLEGP Guidelines provide for part payment of wages in foodgrains, which would certainly counter the inflationary potential many State Governments are averse to supply of foodgrains.

Cottage and village industries

In sectoral terms the traditional village vocations and other Cottage and Village Industries are almost an exclusive responsibility of the Khadi and Village Industries Commission (KVIC). A few specific commodities relating to this sector, like handlooms, handicrafts, silk and coir, either because of their distinctive product qualities, or area spread, are also being looked after by commodities bodies like

the All India Boards for Handicrafts, Handlooms, Silk and Coir. The KVIC has within its fold only 25 industries, apart from Khadi. The development of these in absolute terms has been impressive with production increasing from Rs. 2.78 crores in 1953-54 to Rs. 764.73 crores in 1982-83 and employment going up from 6.84 lakh in 1953-54 to 34.34 lakh in 1982-83. However, in global terms, the KVIC has a relatively limited coverage both in terms of the number and the nature of industries covered, and the area coverage which is largely concentrated in five or six States.

The role of KVIC and the State Governments even in the areas where KVIC has a dominant presence, needs to be reviewed, so as to allow States to function more directly in this sector.

Within the industries covered by the KVIC there is an overwhelming stress on Khadi, which covers about 40 per cent of the total employment under the KVIC programmes. The total employment in turn covers only a part of the total artisan class and others engaged in traditional vocations. 70 per cent of the total number of 70 lakh traditional artisans are yet to be brought into the fold of the KVIC (so far about 18 lakh families from this class have been covered, the remaining 16 lakhs being new entrants). While it goes to the credit of KVIC that almost 50 per cent of the employment created by it has gone to new entrants, the total picture does show the relatively limited impact of the premier body engaged in the field of Cottage and Village Industries, both in terms of creating additional employment opportunities for new entrants into the work force and to support effectively the traditional artisans class.

Essentially, the approach of the KVIC is also household oriented. However, as the NCDBA has significantly observed, the impact on household and per capita incomes has been very limited. It may be mentioned here that the figures of employment include both full time and part-time employment.

Policy support

In order to make the household approach self sustaining and self generative, on the one hand, and to create an impact on the overall economy of the villages and the rural areas, on the other, a policy aimed at integrated development of the rural economy would be necessary. Agriculture and Allied Sectors would, for obvious reasons, continue to play the primary role in the process. Apart from the normal sectoral programmes, several special measures have already been taken in this sector viz. the Drought Prone Areas Programme, the Desert Development Programme, the Massive Programme for Assistance to Small and Marginal Farmers, the Training and Visit Scheme, etc.

The area where a major policy thrust is evidently lacking, and would now be required, is in respect of Rural Industrialisation and development of a robust tertiary sector in the rural areas. We still do not have anything in the nature of a concept of Rural Industrialisation. There is a crying need now to develop a concept and policy for "Rural Industrialisation". Any such policy would have four major components.

Household based industry (this would be particularly relevant for traditional crafts), the objective of which would not only be to augment family and household incomes, but equally to increase production and create more employment in the global sense, where the individual units could be conceived either in terms of a complete production cycle or as an identifiable component of a larger production cycle.

Industries based on agriculture and allied activities with the threefold objective of : (a) providing support to the primary producer for optimising his returns; (b) value addition in the rural areas, thereby also adding to household incomes; and (c) provision of additional employment opportunities in the rural areas with its inevitable impact on relative rural and urban|industrial wages.

Industries intended to (a) produce wage|consumer goods; (b) secondary goods and services for local activities such as tools, equipment, small machinery, fertilizer and feed mixes, agro-service complexes, etc. and (c) local need-cum-resource based industries including even some basic goods such as cement (mini and alternate technology based), tiles, bricks and related secondary products like hume pipes, etc.; and most important, the planned provision of productive and supportive infrastructure, and institutional support particularly in the sphere of input|raw materials supply, marketing, credit and technology.

Within the above framework, some activities and industries would now have to be indentified for the provision of macro-level policy support providing inter-alia, for their development primarily in the village sector and the rural areas; determining the scale of operations and appropriate production cycles for each group, product reservation and purchase reference, supply of quality raw materials and, choice of appropriate technologies geared to an optimal mix of productivity and maximisation of the employment potential Based on the availability of traditional skills and emerging new potentials, the NCDBA has identified some industries for concentrated attention in the first phase. These include food and tobacco products, edible and non-edible oils; beverages; textiles (khadi, cotton, handlooms and manufacture of garments); leather and footwear; major carpentry sectors; ferrous and non-ferrous metals; major items for production under non-metallic mineral products; sericulture and tassar culture; and, carpet making and woollen garments. In addition, a major thrust on agro-processing and agro-industrial activity would now be necessary. Sectoral studies in these areas could lead to comprehensive policy packages. Within such a wider policy support there are some major constraints that will need to be removed.

Institutional support and linkages

A major bottleneck lies in the inadequacy of infrastructural support, primarily in respect of raw material supply marketing. Apart from the provisioning aspect for raw materials|inputs, this would essentially involve institution building. The NCDBA

has dealt with possible institutional mechanism at length, but nothing concrete has emerged so far in terms of integrated linkages planning.

At present, apart from the KVIC, the limitations of which have been touched upon earlier, there are some corporations in some States for specific commodities such as, Handlooms, Leather, Brassware, Sericulture, etc. However, actual experience shows that many of these have a very limited coverage both in terms of area and persons, even in respect of the commodity of specialisation.

With a view to providing a wider multi-product and multi-functional arrangement in respect of village and small industries, District Industries Centres (DICs) had been set up in 1977. In practice, experience of the DICs has, however, been limited and they have tended to operate over the general industrial scene, with no significant direction towards providing the required mix of services specifically to the village sector.

In 1979, a separate pilot scheme was also approved for the setting up of Rural Marketing and Service Centres at the Block level. However, this was taken up only by the All India Handicrafts Board. Out of 224 Centres sanctioned, 164 have been set up and out of the 84 Centres evaluated only 43 are said to be functioning satisfactorily. The coverage is evidently miniscule.

The NCDBA has recommended the establishmnet of District Supply and Marketing Societies (DSMS) to be run on a commercially viable basis, for arranging raw material|input supplies and marketing of the products of atrisans. In this system, at the sub-district level, there can be Group Production Centres and linkages with LAMPS type of bodies to act as branches of the DSMS, and at the State level there could be a body on the pattern of the Gujarat Rural Industrial Marketing Corporation, in addition to the specific commodity bodies that may be existing. Rural Marketing Centres could be reoriented to make them act as multi-commodity display centres, particularly in the urban areas, and, perhaps even be supplemented by regulated private retail channels.

All these posibilities would be subject to the diversity of circumstances in different States. It would be appropriate that a broad pattern of institutional arrangements on the above lines is suggested to the States, and they are encouraged to formulate well conceived and integrated "Linkages Plans". A Special Central Scheme could be conceived in the Seventh Plan for helping to ground such integrated institutional mechanism. It would of course, have to be stressed that the States would ultimately have to shoulder the responsibility squarely inspite of the existence of such bodies as the KVIC and the other All India Institutions.

Training

Training and upgradation of skills is another major area of concern. Under the TRYSEM, there is a Central Scheme for strengthening of training infrastructure in the States. A provision of Rs. 5 crores had been made for this scheme in the Sixth Plan. So far Rs. 4.10 crores upto 1983-84 have been spent against which Rs. 1.82 is expenditure on Central Institutions. The experience of the scheme and the results of evaluation of TRYSEM both point to the fact that, there has not been any substantial progress in developing training infrastructure and training syallabii in a planned manner. The limitations of the existing ITIs and Polytechnics have been mentioned earlier. The KVIC and some of the commodity bodies have their own training schemes, but the coverage of KVIC has been extremely limited. The figures show a sharply declining coverage. In 1980-81 and 1981-82, the number of persons trained by KVIC was 3668 and 7731 respectively as against 1.2 lakh and 2.02 lakh persons trained under TRYSEM in these two years.

It is time that the idea of having a Composite Rural Training Centre (CRTC) in each district, is now operationalised. A scheme of the Education Ministry has been under implementation since 1978-79 under which selected Polytechnics are to be developed as Community Polytechnics for undertaking activities like manpower development and training, transfer of technology, provision of technical services, socio-economic survey and planning, provision of support services through the organisation of Youth Groups, balwadis etc., and dissemination of information for rural development along sciontific lines. In its present form the scheme appears to be too wide and holistic in its approach, and very limited in terms of coverage, with no demonstrable linkages with the other rural development institutions at the district level, as is also evident from the evaluation of the scheme by the PEO (1983). However, the basic idea behind it is sound. It may be worthwhile to reorient the scheme and convert, in the first instance, one selected ITI|Polytechnic in each district into a District Composite Rural Training Centre, functioning as a part of the rural development machinery. Each such centre could have a separate wing for training in the primary, secondary and tertiary sectors, and a Centre for Planning, Project Management and Technology. The Centre would require to have close linkages with other organisations like the District Rural Development Agency (DRDA), the DIC, KVIC, other commodity bodies and technical institutions, and help in the conduct of regular exercises for identification of investment opportunities and updating training programmes according to the state of the market and technology. It would also provide services relating to quality control, product design, etc. Mobile training units, and linkages with group centres at the field level, could be built into the system.

Technology

Another major issue in the whole system relates to improved technology. The flight of artisans from their traditional pursuits can, among other things, be attributed to outmoded processes involving considerable drudgery without adequate returns. The NCDBA has

criticised the tendency to stick to the traditional labour intensive technology involving drudgery, low productivity and low added value. The example of leather has been given, where the cobbler spends much time in the splitting and buffing of leather, which in spite of the most skilful cutting, does not result in uniform product quality. It has been suggested that while the initial processing should be done mechanically at a suitable level of operation, the cobbler should be provided quality raw material and greater competence in the form of new product designs, cutting skills, etc.

In pursuance of the objective of the New 20-Point Programme, which emphasizes the need for updating the technology in rural industries, the KVIC organised a Saranjam Sammelan in March 1983 in which improved equipments designed by various agencies were demonstrated. The KVIC accepted most of the recommended technologies. A Directorate of Instrumentation has also been set up for arranging supply of standardised equipment. The number of units supplying improved equipments has increased from 400 in 1979-80 to 1000 in 1981-82. An appropriate Technology Unit is also functioning in the Ministry of Industries, which has sponsored a number of studies and projects in respect of some rural industries|crafts such as blue potteries (Jaipur, Rajasthan), lock manufacturing (Aligarh, UP) lacquerware (Chennapatna, Karnataka), etc.

But the total impact, particularly in respect of dissemination of technology, has been relatively limited.

It also needs to be taken note of that merely making improvements in the existing process of production from the technology point of view would not be enough. Efforts in this direction would have to be accompanied by changes in the form of Comprehensive Common Production Programmes for selected activities. This would require a multifaceted action approach involving identification of technologies developed, development of new technologies, dissemination and promotion of actual use of technologies at appropriate and optimal levels in the total production cycle and, planned manufacture and provision of improved tools and machinery.

A Council for the Advancement of Rural Technology (CART) has been set up in the Sixth Plan under the Ministry of Rural Development, which has started functioning recently. It would take some time for this institution to start functioning along the above lines and to build up a system of institutional linkages running down to the State and District level on the one hand, and with technical institutions and manufacturing bodies, on the other.

Energy

The availability of energy in the rural areas both for productive purposes and social consumption has also acted as a major constraint in the all-round development of the village economy and qualitative improvement in the level of living. Although rural electrification is included in the Minimum Needs Programme, it has effectively been limited to energization of pump sets and tubewells, and non-availability of power can be said to be a major bottle-neck in the growth of rural industries.

As a result of the emphasis given in the Sixth Plan some headway has been made on the energy scene which had so far been dominated by non-commercial sources of energy, like firewood, agricultural wastes and cowdung which constitute nearly 44 per cent of the total energy consumed in the country. A number of schemes have been started by the Department of New Energy Sources and an Integrated Energy Project is under implementation through the Planning Commission.

However, a considerable amount of research and development work is still needed to improve the designs and lower the costs of new energy sources to bring them within the reach of the rural people. In addition, decentralised block level energy planning on the basis of optimum mixes of alternate uses and energy sources on a fairly large scale would be necessary for which the existing Integrated Project may have to be expanded both in terms of geographical coverage and by extending its scope beyond what now appears largely to be an attempt to demonstrate new energy sources. All this would have to be accompanied by decentralised production of the hardware connected with new energy sources, wherever feasible in techno-economic terms e.g. manufacture of solar cookers, improved chulhas (in fact the latter could usefully be made a compulsory component of each house-hold project under the IRDP), construction and maintenance of bio-gas plants (maintenance is currently a major problem in this scheme), low cost latrines, etc.

Tertiary sector

For balanced development and self-generative growth of the rural and village economy, the growth of the primary and secondary sectors would have to be accompanied by a robust tertiary sector, both from the point of view of meeting the increased demand for goods and services, and widening the base of the occupational structure. In the developed countries nearly 40-50 per cent of the people earn their livlihood from this sector, whereas in our country less than 20 per cent of the population is engaged in it.

Unfortunately little attention has been paid so far to the development of the tertiary sector in a planned manner. There is no department in the States which has exclusive responsibility for the promotion of this sector. The first need is to create such nodal points immediately, for instance there could be a Department of Internal Trade and Services in the Central and State Governments.

Services can be broadly classified as commercial (haircutting, tailoring, retail trade, confectionary and catering, repair workshops, welding, wiring, masonary, automechanics, etc.) and social (paramedical and health services, sanitation, maintenance of assets created by Government, etc.).

The former could take the form of self-employment ventures and planned wage employment in larger ventures and complexes. The latter is, in fact, the only way of making the policies of industrial dispersal really meaningful in terms of the development of the rural areas. As for the self-employment ventures, they could be planned on the basis of quick surveys of existing facilities and common sense norms of population coverage per unit. Many of these ventures involve small investment and relatively low levels of skills and have immense potential for development.

The social services have so far remained in the exclusive domain of formal government employment. For reasons stemming from this, such as unwillingness to work in the rural areas, financial constraints, etc., the existing availability of services in the rural areas cannot be called adequate both in quantitative and qualitative terms e.g. a large number of posts of ANMs in the rural areas are lying vacant. The provision of "bare foot doctors" and "Dais" working on an honorarium basis after being trained locally and provided with appropriate kits, would not only be desirable, but would also fit in with the rural milue. There could be other examples like persons trained to construct and maintain facilities like hand-pumps, trained soil testers allowed the use of common facilities, quality testers in market yards, persons trained to construct and maintain low cost latrines, etc.

The need of the hour is that State Governments draw up comprehensive plans for the development of the tertiary sector involving quick survey of the demand of various services and arrangement for matching supplies.

An important element in the entire process of rural development is the adoption of what the NCDBA has called the "focal point" approach or the growth centre approach. This will facilitate better planning, more optimal use of resources, setting up of agro-industrial services complexes in a planned manner and, most importantly, will lead to a gradual urbanisation of the rural areas as opposed to the present tendency of migration from the villages. This therefore, needs to be adopted as an integral part of the planning process □□

TOWARDS SOCIAL REVOLUTION
a Case for Economic Democracy -
VASANT SATHE

A Serialisation 10

Some aspect of the Indian economy

Achievements of planning : Retrospect and prospects

PLANNING IN INDIA derives its objectives and social premises from the Directive Principles of State Policy set forth in the Constitution. The public and private sectors of the economy are viewed as complementary. The private sector covers not only organised industry but also small-scale industries, agriculture, trade and a great deal of activity in housing and construction and other fields. Individual effort and private initiative are considered both necessary and desirable, the policy being to assist development on the basis of voluntary cooperation to the utmost extent. Economic planning also envisages a growing public sector with massive investments in basic and heavy industries.

The First Five-Year Plan (1951-52 to 1955-56) had a two-fold objective to correct the disequilibrium in the economy caused by the Second World War and partition of the country and to initiate simultaneously a process of all-round balanced development, which would ensure a rising national income and a steady improvement in the living standards over a period of time. Since the country had to import foodgrains on a large scale and there were inflationary pressures in the economy, the Plan accorded the highest priority to agriculture.

In 1954, Parliament declared that the board objective of economic policy should be to achieve a 'socialistic pattern of society' under which the basic criteria for determining the lines of advance would be social gain and greater equality in income and wealth and not private profit. Therefore, the Second Five-Year Plan (1956-57 to 1960-61) sought to promote a pattern of development which would ultimately lead to the establishment of a socialistic pattern of society in India. In particular it stressed that the benefits of economic development should accrue more to the less privileged sections of society and there should be a progressive reduction in the concentration of income, wealth and economic power.

The Third Five-Year Plan (1961-62 to 1965-66) aimed at securing a marked advance towards self-sustaining growth. The Plan aimed at an increase of 30 per cent in the national income and 17 per cent in the per capital income duting the period.

The Fourth Plan (1969-70 to 1973-74) aimed at accelerating the tempo of development in conditions of stability and at reducing fluctuations in agricultural production as well as the impact of uncertainties of foreign aid. It aimed at raising the standard of living of the people through programmes which at the same time were designed to promote equality and social justice. Efforts were also directed towards reduction of concentration and a wider diffusion of wealth, income and economic power.

The Fifth Plan (1974-75 to 1977-78) was formulated at a time when the economy was facing severe inflationary pressures. The major objectives of the Plan were to achieve self-reliance and to adopt measures for raising the consumption standards of the people living below the poverty line. The Plan also gave high priority to bringing inflation under control and to achieving stability in the economic situation. It aimed at an annual growth rate of 5.5 per cent in national income.

The Sixth Plan (1980-81 to 1984-85) has been formulated after taking into account the achievements and shortcomings of the past three decades of planning. Removal of poverty is the foremost objective of the Plan even though it is recognised that a task of this magnitude cannot be accomplished in a short period of five years. Among other things, the strategy adopted for this Plan consists essentially in moving simultaneously towards the infrastructure for both agriculture and industry so as to create conditions for an accelerated growth in investment, output and exports and provide, through special programmes designed for the purpose, increased

*Facts and figures quoted in this chapter are based on India 1982, Research and Reference Division, Publication Division Government of India, New Delhi.

opportunities for employment especially in the rural areas and the unorganised sector and meet the minimum basic needs of the people. This Plan envisages a total public sector Plan outlays of Rs. 97,500 crores and aims at a growth rate of 5.2 per cent per annum in gross domestic product and 3.3 per cent per annum in per capita income.

The revised 20-Point Programme, announced by the Prime Minister on 14 January 1982, reinforces the principal guiding factors in the formulation of the Sixth Plan. The programme focusses attention on some of the most important social and economic programmes included in the Sixth Plan and seeks to impart greater dynamism to these. While the thrust of the revised programme continues to be on providing better living conditions for the less privileged sections of the population, it also aims at all-round improvement in productivity. The importance given to the programme can be gauged from the outlays earmarked for the Revised 20-Point Programme in the current Sixth Plan, as shown in Table 1.

Table 1 Outlays for the Revised 20-Point Programme

(Rs crores)

S No	Item	Sixth Plan outlay
1	2	3
1.	Irrigation and dry land agriculture	10,266.68
2.	Production of pulses and oilseeds	82.11
3.	Integrated rural development and national rural employment	34,86.64
4.	Land reforms	304 63
5.	Minimum wages for agricultural labour	2.53
6.	Rehabilitation of bonded labour	31.68
7.	Accelerated programme for development of scheduled castes and tribes	1.310.00
8	Supply of drinking water to problem villages	2 007 11
9.	Rural house-site-cum-house construction	353.50
10.	Environmental improvement of slums	151 45
11.	Power	19,265.44
12.	Afforestation, social and farm forestry and development of bio-gas	150 00
13.	Family planning	10,10.00
14.	Universal primary health care, etc.	506.72
15.	Accelerated programme for women and child welfare	220.18
16.	Elementary education for age group 6—14 and removal of adult illiteracy	1,033.00
17.	Public distribution system	4.00
18.	Village and small industries	1,780.45
	Total :	42,768.00

The physical targets corresponding to the outlays for the Revised 20-Point Programme and the achievements made during 1981-82 and the targets set for 1982-83 are listed in Table 2.

What briefly are the achievements in terms of physical targets of the Sixth Five-Year Plans so far ?

The agricultural sector contributes nearly one-half of the national income, provides livelihood to about three-fourths of the population, supplies the bulk of wage goods required by the non-agricultural sector and raw materials for a large section of industry, besides providing a substantial portion of the country's exports. The increase in the irrigated areas, consumption of fertilisers and total production of foodgrains have been discussed already. The growth of other aspects of this sector merits attention here.

Table 3 shows the area under major crops an the production of foodgrains and other principal crops over the period 1950-51 to 1980-81.

Table 4 gives the development of cumulative irrigation potential during various plans and its utilisation.

Table 5 gives the total community assets created under the Food for Work Programme|National Rural Employment Programme from 1977-78 to 1980-81.

Table 2—Physical targets and achievements of the Revised 20-Point Programme

Item	Unit	Prior to Sixth Plan	Sixth Plan targets	Achievements during 1981-82	Targets for 1982-83
(1)	(2)	(3)	(4)	(5)	(6)
Increase in irrigation potential	Million hectares	56.6	13.74	2.74	2.38
Pulses production	Million tonnes	12.8	14 50	11 40	14.87
Oilseeds production	Million tonnes	10 2	13 00	11.50	13.51
IRDP-families to be benefited	Millions	2.8	15.00	2.41	3 00
NREP-Man-days employement	Millions	989.2	300-400 per year	2.67.1	331.10
Surplus land assumed for allotment	Lakh acres	6.79	52 48	7.31	11.33
Bonded labour to be rehabilitated	Numbers	122,000	32,300	22,314	32,574
Families to be economically assisted :					
(i) Scheduled Castes	Lakhs	—	—	12 06	19 89
(ii) Scheduled Tribes	Lakhs	—	—	—	9 47
Problem villages to be covered	Thousands	95	231	27.7	35 3

1	2	3	4	5	6
House-sites to be alloted	Lakh families	77	68	11.28	11.32
Construction assistance to be provided	Lakh families	55.66	139	5.41	7.47
Slum population to be covered	Lakhs	68	310.7	14.56	19.81
Economically weaker section houses to be provided	Lakhs		16.2 3.0 (HUDCO)	0.60	1.79
Rural electrification :					
(i) villages to be electrified	Numbers	249,799	100,00	24,669	25,512
(ii) pumpsets to be energised	Thousands	4,000	2,500	326.4	423
Trees to be planted	Crores	—	—	125.7	186
Bio-gas plants to be set up	Numbers	75,000	400,000	23,086	75,000
Sterilisations to be done	Lakhs	313.7	240	29.7	44.6
PHCs to be established	Numbers	5,400	600	171	209
Sub-centres to be set -up	Numbers	50,000	40,000	8,319	7,931
Integrated Child Development Scheme blocks to be opened	Numbers	150	1,000	115	320
Enrolment in age group 6—14	Crores	9 3	7	1.14	0.40
Adult literacy	Lakhs	900 (all people in age 15—35)	7	29.18	55.85
Fair price shops	Lakhs	2.98	0 52	N.A	0.52

Table 3—Area under and production of principal crops

Item	1950-51	1960-61	1970-71	1978-79	1979-80	1980-81
Area under principal crops ('000ha)						
1. Total foodgrains	97,321	115,581	124,316	129,010	125,206	125,790
2. Sugarcane	1,707	2,415	2,615	3,087	2,610	2,648
3. Groundnut	4,494	6,443	7,326	7,433	7,164	6,904
4. Sesame	2,204	2,169	2,433	2,389	2,377	2,442
5. Mustard, etc.	2,071	2,883	3,323	3,543	3,470	4,063
6. Cotton	5,882	7,610	7,605	8,119	8,137	7,871
7. Jute	571	629	749	884	834	942
Production of principal crops ('000 tonnes)						
1. Total foodgrains	55,011	82,326	108,422	131,900	109,700	129,867
2. Sugarcane	70,490	14,080	26,368	15,734	128,833	150,522
3. Groundnut	3,319	4,698	6,111	6,208	5,768	5,019
4. Sesamum	422	320	562	1,514	347	437
5. Mustard, etc.	768	1,347	1,976	1,860	1,428	2,247
6. Cotton ('000 bales)	3,039	5,550	4,763	7,957	7,671	600
7. Jute ('000 bales)	3,497	4,136	4,938	6,470	6,071	6,515

Table 4—Development of cumulatifve irrigation potential and its utilisation

(Lakh ha)

Major and medium projects	Pre-Plan	First Plan (1951–56)	Second Plan (1956—61)	Third plan (1961—65)	Fourth Plan (1969—74)	Fifth Plan (1974—78)	1980-81	Proposed for Sixth Plan (1980–85)
1	2	3	4	5	6	7	8	9
Potential	97	122	143	165	207	247	275	326
Utilisation	97	110	129	152	187	212	232	284

Table 5—Community assets created under FWP/NREP

Community assets created	Area covered under soil conservation (ha)	Area brought under irrigation through major irrgation (ha)	Area made cultivable through flood protection (ha)	Area covered under plantation (ha)	School buildings constructed/repaired (numbers)	Panchayat ghars/community halls constructed (numbers)	Road work: Maintained, improved/repaired (numbers)	Road work: New roads constructed (numbers)	Construction of intermediate/main drains/field channels and land levelling, etc., in irrigation command areas (numbers)	Other works
Total :	8,311,699	1,270,285	492,258	474,151	114,160	5,642	478,893	228,377	215,916	379,221

Power

The growth of installed generating capacity in million kilowatts in India is as follows :

1951	1956	1961	1966	1969	1974	1979	1982
2.3	3.4	5.6	10.2	14.3	18.5	29.3	35 5

The expected addition to the total energy from various sources during the Sixth Plan, viz., 1980—85, is 19.66 million kilowatts.

Coal

After Independence, coal mining was stepped up, and production has risen from 32 million tonnes in 1950 to well over 120 million tonnes.

Oil

A production of 20.95 million tonnes of oil, both from offshore and on-shore oilfields, was anticipated during the year 1982-83. In the wake of recurring heavy outflow of precious foreign exchange for the import of oil, an accelerated effort is on to drastically raise indigenous production in the shortest time possible, as Table 6 shows.

Table 6—Production of oil

(Million tonnes)

Source of production	1980-81	1981-82	1982-83 (anticipated)
On-shore	5 52	8 22	8 84
Off -shore	4 98	7.97	12.11
Total :	10.50	16.19	20 95

Industry

During the three decades of planned development, industrial production has made rapid strides both in terms of variety and quality. The production increased at an average growth rate of about 5 per cent per annum during the period 1980-81, and the growth has been particularly marked in areas such as petroleum products, chemicals and chemical products, metal products, electronics, electrical machinery, transport equipment and power generation. The share of the manufacturing sector in the net domestic product increased from 13.9 per cent in 1960-61 to 15.4 per cent in 1980-81.

An important feature of industrial growth in the country after Independence has been the rapid expansion of the public sector. In 1951, there were only five non-departmental public undertakings with an investment of Rs. 29 crores. On 1 April 1981, they numbered 185 with an investment of Rs. 21,126 crores and nearly Rs. 25,000 crores at the beginning of 1982-83. These enterprises produce diverse products such as steel, coal, aluminium, copper, heavy and light engineering products, fertilisers, basic chemicals, drugs, minerals, petroleum products, locomotives, aircraft and ships. Their turnover in 1980-81 was Rs. 28,645 crores and the number of their employees was 18.38 lakhs.

Following Parliament's acceptance in 1954 of a socialistic pattern of society as the national objective, the industrial policy was revised in 1956. Under the revised policy, industries were specified in two schedules. Industries specified in Schedule A, such as arms and ammunition, defence equipment, atomic energy, iron and steel, mineral oil, aircraft, air transport, railway transport, ship-building, telephones, electricity, etc., are the exclusive responsibility of the state, while industries specified, in Schedule B, such as ferroalloy and tool steel, basic and intermediate products required by chemical industries, such as the manufacture of drugs, dyestuff and plastics, antibiotics, fertiliser, synthetic rubber, chemical pulp, road and sea transport, etc., are to be progressively state-owned, but private enterprise is expected to supple-

197DPD/84—4

ment the efforts of the state in these fields. Future development of industries falling outside the two schedules would, in general, be left to private enterprise. Notwithstanding this demarcation, it is always open to the state to undertake any type of industrial production.

Cement

The production of cement which was merely 2.9 million tonnes in 1950-51 had risen to 21 million tonnes in 1981-82.

Steel

The production of saleable steel from the integrated steel plants during 1979-80, 1980-81 and 1981-82 was 6.0, 6.28 and 7.27 million tonnes, respectively.

Mineral production

The value of mineral production (excluding atomic minerals) increased considerably during the last two decades, from Rs. 165.1 crores in 1960 to Rs. 3,540.2 crores in 1981. The quantity index of mineral production (based 1970—100) rose from 129 in 1975 to 171 in 1981.

Foreign trade

The value of imports and exports, the total value of foreign trade and the balance of trade for selected years since 1950-51 are given in Table 7.

which include consultancy, civil construction and turn-key contracts have also made a significant progress in recent years.

Efforts have been made in recent years to reorient export strategy with a view to reducing the social costs of exports and to encourage exports of those projects in which we have a long-term comparative advantage and dynamic expansion possibilities.

Transport

There has been phenomenal growth in the transport sector, viz., the railways, road transport, shipping, inland transport, civil aviation and allied activities like tourism. The route length, running track, passengers originating and goods originating in the Indian Railways during 1950-51 and 1980-81 are given in Table 8.

Table 8—Growth in Indian Railways

Year	Route length (km)	Running track (km.)	Passengers originating (lakhs)	Goods orignating (lakh tonnes)
1950-51	53,596	59,315	12,840	930
1980-81	61,240	75,860	36,125	2,200

The total length of roads in India at the end of 1979-80 was 540,720 km. comprising 420,165 km. surfaced roads and the remaining 120,555 km. un-

Table 7—India's foreign trade

(Rs. in crores)

Year	Imports	Exports (including re-exports)	Total value of foreign trade	Balance of trade
1	2	3	4	5
1950-51	650 21	600.64	1,250 85	49.57
1960-61	1,139 69	660 22	1,799 91	—479 47
1970-71	1,634.20	1,535 16	3,169.36	—99.04
1973-74	2,955.37	2,523 40	5,478.77	—431 97
1974-75	4,518 78	3,328.83	7,847.61	—1,189 95
1975-76	5,265.20	4,042 25	9,307.45	—1,222 75
1976-77	5,073.79	5,142.25	10,216 04	+68 46
1977-78	6,025.29	5,404.26	11,429.55	—621.0
1978-79	6,814 30	5,726.26	12,540.56	—1,088.04
1979-80	9,021.75	6,458.76	15,480.51	—2,562.99
1980-81	12,523.91	6,.710.71	19,234.62	—5,813.20
1981-82	13,560.12	7,781.40	21,341.52	—5,778.72

With the impressive industrial development since Independence, India's foreign trade has undergone a complete change. Before Independence, the bulk of her foreign trade was confined to Britain and other Commonwealth countries and while exports were based on a few primary commodities, imports were restricted and consisted mainly of manufactured articles. Though, on the surface, there was a favourable balance of trade, it concealed a low level of industrial production and economic development. India's present exports cover a wide range of items of agricultural and industrial sectors as also of handicrafts, handloom, cottage and craft articles; project exports

surfaced roads. The total number of motor vehicles on the roads as on 31 March 1980 was 41.06 lakhs, which includes 2.54 lakh buses including three-wheeler passenger vehicles, and 3.60 lakh tractors.

India has about 5,200 km. of major rivers, which are navigable by mechanised craft, but only 1,700 km. are actually utilised. As regards canals, the available length is 4,300 km. but only a length of 485 km. is suitable for mechanised craft, of which only 331 km. are being actually utilised.

India has the largest merchant shipping fleet among the developing countries and ranks fifteenth in the

world in shipping tonnage. The country's operation tonnage has risen from 1.92 lakh GRT (gross registered tonnage) at the time of Independence to 58.59 lakh GRT as on 31 March 1981. India has four major ship-building yards and all these are in the public sector. India has now 10 major ports and 160 minor ports scattered all along the coastline of about 6,000 km. The overseas traffic handled by the major ports increased from 57 million tonnes in 1974-75 to 80.4 million tonnes in 1980-81.

Miscellaneous

Apart from the foregoing, tremendous progress has been achieved, since the years of planning in India, in fields such as telecommunication, postal service, civil aviation, mass communication, housing and other social security schemes.

GAP BETWEEN TARGETS AND ACHIEVEMENTS

A recent study made by S. K. Tulsi has shown that because of delays and the shortfall in the implementation of plan targets beginning from the First Five-Year Plan onwards, there has been a substantial loss of production as well as generation of higher national growth and per capita income. It says that, on an average, a Five-Year Plan took seven years to be implemented. Table 9 gives in a nutshell the planned increase in output for certain selected sectors over 28 years of national planning, the actual increase, the output gap and the loss of time in years, according to the aforementioned study.

Further, according to the same study, the national income would have been higher by Rs. 120,082 crores if the targets laid down by the Planning Commission had been achieved in time. This would mean that our per capita income would have reached Rs. 3,398 in 1980-81 instead of being only Rs. 1,537.

We shall have to determine whether the non-implementation and non-fulfilment of the Plan targets were due to reasons entirely beyond the control of the people entrusted with planning or whether they were on account of the deficiencies at various levels, both of decision-making and of implementation—deficiencies which were inherent in the system and not accidental. If we find that there are some inherent lacunae in the working of the Plan projects, then we shall have to take a serious note of them and try to correct them.

MID-TERM REVIEW : SIXTH PLAN

The Sixth Plan Mid-Term Review presents an assessment of growth of the economy in a relatively short period, i.e., three years. The economy took an upward swing with the growth of Gross Domestic Product by 7.9 per cent in 1980-81. In 1981-82, the GDP increased by 5.2 per cent. Thus, over the first two years of the Plan, economy grew at the rate of 6.5 per cent in real terms, exceeding the Plan annual growth rate of 5.2 per cent. However, due to bad weather, etc., the growth rate in 1982-83 is estimated to be only 2 per cent.

The domestic rate of inflation was significantly reduced ; the movement of wholesale price index fell from the very high rate of nearly 18.20 per cent in 1980-81 to around 2 per cent in 1982-83.

However, the picture regarding prices of imported capital goods is not rosy. The inflation, particularly in the costs of capital goods, has eroded the value of Plan investments. Taking the first four years of the Plan, the total actual or approved plan outlays come to 83 per cent (Rs. 79,880 crores) of the public-sector Plan outlay of Rs. 97,500 crores. But thanks to erosion through inflation, this represents at 1979-80 prices only 62 per cent of the Plan outlay. For 1983-84, it has been decided now (July 1983) to raise the Centre's Annual Plan investment by Rs. 800 crores, directed mostly towards the core sectors.

Table 9—Twenty-eight years of planning (beginning with Second Plan)

Sector		Planned increase in output	Actual increase	Output gap	Loss of time (years)
1		2	3	4	5
Foodgrains	('000 tonnes)	121,100	66,900	54,200	10
Cotton	('000 tonnes)	1,746	684	1,062	14
Cement	('000 tonnes)	28,020	15,020	13,000	10
Finished steel	('000 tonnes)	16,100	5,400	10,700	15
Electrical capacity	('000 kw)	40,231	25,800	14,431	8
Paper, etc.	('000 tonnes)	1,071	800	263	5
Fertilisers ('000)	('000 tonnes)	6,885	2,843	4,042	13
Area irrigated	('000 ha)	58,600	27,900	30,700	12
Railway traffic	('000 tonnes)	264,000	106,000	158,000	8
Primary students	(percentage in the age group 6—11)	51.8	33.5	18.3	8
Exports	(Rs. crores)	17,217	7,600	9,617	17

The mid-term estimates indicate that the Plan targets will be fulfilled in full or adequate measure in a number of areas, including agriculture and industry.

Prices and money

The behaviour of prices in the first three years of the Sixth Plan was encouraging, showing a declining trend in the rate of inflation. The growth in the wholesale price index, which was as much as 18.2 per cent in 1980-81, came down to 9.3 per cent in 1981-82 and to nearly 2.5 per cent in 1982-83. The rise in the consumer price index during 1982-83 was also less as compared with that in 1981-82. Investment costs have, however, risen comparatively fast due to the sharp rises in the costs of construction inputs like iron and steel, cement, logs and timber, etc.

Monetary policy was used flexibly with a view to controlling inflationary pressures and to meeting the growing needs of production and priority sectors. Aggregate monetary supply (M3) increased by 16.8 per cent in 1980-81, 12.6 per cent in 1981-82 and 14.8 per cent during 1982-83. Monetary policy will continue to be restrained and cautious because of probable inflationary pressures, but the growing requirements of credit for production purposes will also have to be met fully.

Particular attention will have to be given to increasing domestic production and efficient management of supplies in the case of essential commodities. Where necessary, domestic production will have to be supplemented by timely imports. Since the maintenance of adequate stocks of foodgrains with public agencies helps in keeping in check the market expectations of price rises, continued efforts will have to be made to maximise the procurement of foodgrains. The public distribution system will have to be reoriented, strengthened and streamlined in order to make available essential consumer goods to people, particularly the weaker sections, at reasonable prices throughout the country. Besides, hoarding, profiteering and other anti-social activities will have to be effectively curbed by taking stringent action against those indulging in them.

Poverty and employment

The Sixth Plan document assumed a reduction in the percentage of people below the poverty line from 47 per cent to 30 per cent. In absolute terms, the number of persons below the poverty line was expected to come down to 215 million from 316 million. Subsequently, because of the revision in the population estimates, based on the 1981 Census the figures of population, below the poverty line in 1979-80 were revised, and worked out to 51.1 per cent (nearly 339 million people). Over 1980-81 and 1981-82, a large number of families below the poverty line are expected to have crossed it because of the rise of their real income, partly through the adoption of specific poverty alleviation programmes like IRDP and NREP. The exact distribution pattern of expenditure below and above the poverty line will not be known until the results of the National Sample Survey for the year 1983 become available. Until that time, the number and percentage of people below the poverty line may be estimated on the basis of the assumption that increase in real income is uniform in all the expenditure classes and the number of families brought above the poverty line is relatable directly to the corresponding expenditure in IRDP and NREP. Adopting this method, the percentage of those below the poverty line, it is estimated, came down to 41.5 and their number to 282 million in 1981-82. Thus, over the two years 1980-82, of the people to be taken above the poverty line under the Plan target, 34 per cent were so taken.

The aggregate employment target in terms of 'standard person year' has been placed at 34 million over the Sixth Plan period. This employment is primarily to be generated in agriculture, manufacturing and the service sectors, the last including the two major employment generation programmes, IRDP and NREP. An employment of 4 million standard person years exclusively from these two programmes is expected over the Plan period.

Nearly 12 million standard person years of additional employment were estimated to have been generated over the first two years of the Plan, constituting about 34 per cent of the total employment target of the Plan. This suggests some shortfalls in this area. The major shortfall has occurred in the manufacturing and construction sector, where the growth rate over the Plan period is below the Plan target. In the year 1982-83, a further deceteration in growth is expected, mainly due to a bad harvest. Taking all this into consideration, a significant shortfall in the Plan's employment target in 1982-83 is apprehended. The 1981 Census has shown that the rate of growth of population is higher than assumed in the Sixth Plan document. The pressure on the labour market, as a result, however, will not be felt in the immediate future.

Population control

Under the general heading called 'family planning', a scheme was evolved for family welfare, one of the essential features of which was population control in the form of encouraging a smaller family with, at the most, two to three children per couple. The population of India at the time of Independence was approximately 370 million. It increased at the rate of nearly 2 to 2.5 per cent per annum and within a period of 35 years, it has almost doubled, and most of this growth, according to the famous Malthusian theory, has been in the poorer sections of the population with the result that this has added numbers which did not contribute to addition of productive force in terms of production of wealth and yet meant more mouths to be fed and more persons to be looked after in terms of other facilities, such as health, education, shelter, etc.

As stated earlier, the land under irrigation has not increased in the same proportion and although the production of foodgrains also doubled during this period, it has more or less been neutralised by the population growth. In effect, it meant that the

living standard or per capita availability in terms of foodgrains has remained more or less the same as it was at the dawn of Independence.

But this population growth of the poorer section of the society has another more serious implication. In effect, it also means the addition of children who, on account of poverty, suffer from malnutrition from their very childhood, resulting in widespread disablements and deformities in physical terms in the form of polio, blindness, mental retardation and other ailments. This population of disabled persons becomes an even greater drawback on the whole society. But the more important factor is that a vast mass of added population, which becomes workworthy physically, is not provided with any productive work. It is this huge segment of population which becomes restive, gets frustrated and agitated, some of which gets drawn to the few large urban centres and is converted into slum and footpath dwellers. The sociological aspect of deprivation of this class in terms of erosion of social and moral values is even more exasperating. Population can be a strength only if it is put to productive use and contributes to the general growth and welfare of the whole society. But from the fact of distortion of distribution of wealth and job opportunities, it is seen that this has not been the case either in India or in most of the developing countries.

According to the Year Book (1981-82) of Family Welfare Programme in India, the percentage of couples in the reproductive age group who have been brought under family planning schemes, including sterilisations, IUD insertions and other methods, increased from 10.6 per cent in 1970-71 to 23.7 per cent in 1981-82. But in terms of numbers, it has increased from 9 million couples to 28 million couples approximately. A recent assessment has shown that by the end of the Sixth Five Year Plan, there would be approximately 44 million unemployed people.

Unfortunately, the need for restricting the growth of population, particularly in the poorer sections, was not felt so actually at the beginning of the planning process in India. This is evident from the fact that in the First Five Year Plan, the amount provided for family planning was a paltry sum of Rs. 1.45 million. In the Second Five-Year Plan, this amount was increased to Rs. 21.6 million and in the Third Plan it was raised to Rs. 248.6 million. This was further increased to Rs. 704.6 million in the three Annual Plans, to Rs. 2.84 billion in the Fourth Plan, to Rs. 4.09 billion in the Fifth Plan and a sum of Rs. 10 billion has been provided in the Sixth Plan.

This author had submitted a paper to the Planning Commission as early as 1954 during the mid-term review of the First Five-Year Plan suggesting the provision of about Rs. 2 to Rs. 3 billion to give direct cash incentives to at least 10 million persons in the reproductive age group to be reached per year. In addition, a scheme of monthly allowance for the first two children and other incentives, such as providing loans for housing, etc., should be incorporated in the Plan to tackle the problem of population control on a war footing. Unfortunately this suggestion was considered impracticable and Utopian at that time. It was forgotton that the amount spent at one time to check the birth of one person is much more economical than the amount which the entire society will have to spend on bringing up that person during the entire unproductive period, till the age of 18, and even thereafter when it is not possible to provide any productive occupation to him. Although the realisation of the need to spend substantial amounts on this programme has dawned rather late, it is still the opinion of this author that the amount provided even today is substantially less. The fact that we are able to cover only 23 per cent of the reproductive age group is itself an evidence that the growth rate will still continue to be substantial with the population reaching more than a thousand million by the turn of the century.

It is common knowledge among economists that the best way to bring about reduction in the growth rate of population is to improve the economic standard of living of the people. It has been seen that as people and families develop economically, they themselves realise the advantage of having smaller families. In fact, in most of the highly developed countries, they have now reached practically a negative growth rate in population.

Hence, in the ultimate analysis, if we adopt an imaginative and a dynamic plan, for the economic growth of our entire population, by providing productive work to most of the work-worthy members, it would in itself automatically serve as the best incentive for population control as well as family welfare. The model of the scheme suggested in this thesis is to achieve this objective.

(Next issue : Planning sectoral analysis agriculture)

Do You Know That

India has a coastline of 6080 kms. and that there are 10 major and 185 minor ports besides innumerable harbours along this coastline.

Our country has a merchant fleet of 300 Ocean going vessels totalling over 60 lakh GRT.

India's foreign trade is to the tune of Rs. 20,000 crores, that almost all of it is seaborne and that more than 33 per cent of it is carried by Indian ships.

The country has invested Rs. 2000 crores in offshore oil explorations and that we will be mining 300 lakh tonnes of oil very soon.

We possess the largest Economic Exclusive Zone in the Indian Ocean in which lies a considerable volume of world's mineral and living assets.

India has received pioneer investor status in seabed mining and that efforts are in hand to explore various sources of mineral wealth.

A panorama of nuclear development

Today India is amongst a handful of nations and the only developing country to have the experties for complete fuel cycle right from uranium exploration, mining, extraction and conversion through fuel-fabrication, heavy water production and reactors to reprocessing and waste management.

WORK ON THE PEACEFUL use of nuclear energy was started in India four decades ago when it was almost a frontier science and only a few developed countries were engaged on it. India's nuclear fuel cycle strategy was chalked out in 1954, namely, a first stage of natural uranium reactors for producing power and plutonium, a second stage of plutonium fast breeder reactors producing power and more plutonium and also uranium-233 from thorium, and a third stage of uranium 233—thorium breeder reactors.

Fuel

India has limited uranium resources, but its thorium resources are the largest in the world. Without depending on foreign help, India's endeavour to develop the uranium exploration, mining and extraction techniques on its own have brought her to a position where not only can it meet its own needs but can offer assistance to other developing countries.

India is one of the very few countries that have the capability of producing nuclear fuel elements for research and power reactors. About 23 years ago, India had developed and built a fuel fabrication plant at Trombay with indigenous technology. This plant not only produces natural uranium fuel elements for India's research reactors but also thorium fuel for the Fast Breeder Test Reactor and other research purposes.

Starting in 1971, Nuclear Fuel Complex at Hyderabad now manufactures complete fuel elements including zircaloy structural materials for power reactors of the pressurised heavy water type. It also fabricates fuel elements from imported enriched fuel. It produces high purity materials required by the electronics industry, seamless stainless steel tubes and seamless ball bearing.

Fabrication of plutonium fuel is an extremely difficult task because of its toxicity. But this has been successfully accomplished at the plutonium metallurgy laboratory at Trombay. The fabrication of fuel elements for the Fast Breeder Test Reactor will be undertaken in this facility.

Heavy water

India's nuclear power generation programme rests on pressurised heavy water reactors. There are three Heavy Water Plants in operation at Nangal, Tuticorin and Baroda, two under commissioning at Talcher and Kota, and two under construction at Thal-Vaishet, near Bombay; and Manuguru near Hyderabad.

Technology developed in the country has resulted in the successful establishment of heavy water upgrading facilities. Upgrading plants based on electrolysis and vacuum distillation designed and developed by Indian efforts, have been set up at the Kota and Kalpakkam atomic power stations.

Power reactors

India is also one of those few countries in the world which possess valuable experience in the construction and operation of reactors. Five power reactors have been built in the country and five more are under various stages of construction.

To bring nuclear power to the country without delay and to give an opportunity to Indian technical personnel to acquire experience in operating nuclear power stations under Indian grid conditions, two units of 200 MWe each were obtained from USA and put to commercial production at Tarapur (Maharashtra) in 1969. This station uses imported enriched uranium. Since 1975, the fuel elements for the plant are being made in India using the imported enriched uranium.

The country's second power plant at Kota (Rajasthan) is a two unit (220 MWe each) system. It uses natural uranium as fuel and heavy water as moderator and coolant. The first unit of the station, though built with Canadian collaboration, started the process of indigenisation and this effort had to be considerably strengthened for the second unit which has 75 per cent indigenous content in terms of costs. Some of the nuclear equipment manufactured indigenously include, reactor vessel Calandria and end shields, steam generators, fuelling machines, etc.

This effort has culminated with the third atomic power station at Kalpakkam (Tamil Nadu) where the indigenous content has increased to 90 per cent in terms of costs. This station consists of two heavy water reactors units of 235 MWe each. The first unit has been commissioned in July 1983. With this India has become the seventh country in the world that have the capability to design, build, commission and operate a nuclear power plant by indigenous efforts.

The fourth and fifth atomic power projects at Narora (U.P.) and Kakrapar (Gujarat) will have two heavy water reactors with 235 MWe (each) capacity. These four units are of wholly indigenous design and manufacture. The indigenous technological capabilities form the base of India's future nuclear power programme which aims to generate 10,000 MW of power by 2,000 A.D., contributing about 10 per cent of the total power generation capacity of the country.

Reprocessing

About two decades ago, India became the fifth country in the world to start reprocessing of spent fuel. The reprocessing plant at Trombay was built in record time and costing less than half the cost of similar plant under construction in another country. The plant was refurbished and recommissioned successfully incorporating additions and alterations for expansion of its capacity.

A 100-tonne per year Power Reactor Fuel Reprocessing Plant has been set up at Tarapur for reprocessing the spent fuel elements from Tarapur and Rajasthan Atomic Power Stations.

Waste management

Backed up by more than 20 years of experience in R & D, different waste management schemes for the different types of plants in the nuclear fuel cycle from mining to reprocessing have been designed, installed and are being operated. India has also developed waste immobilisation by vitrification. This experience establishes that it is possible to construct 100-200 [illegible] capacity plants [illegible] much lower than the [illegible].

Bhabha Atomic Research Centre

Amongst the developing countries, India has the unique distinction of evolving and building nuclear science and technology right from the laboratory stage to the industrial stage largely by own efforts. The Bhabha Atomic Research Centre (BARC) is the leading institute engaged in research in basic and applied nuclear sciences. It has the major responsibility for building up an infrastructure of nuclear technology besides continuing basic research in a wide range of disciplines. Much of the R & D activities at BARC are directed to supporting the nuclear fuel cycle connected with the heavy water reactor based nuclear power programme. These include reactor physics, reactor chemistry, nuclear materials, health and safety, radiation protection and reactor engineering.

India has built four research reactors and a fifth one is under construction. In the field of research reactors, India's expertise is fully mature. The 1 MW swimming pool research reactor Apsara built in 1956 is still operating. A zero energy fast reactor Purnima initially used plutonium oxide fuel elements, is being modified to run on uranium-233 as fuel. R-5 has been designed and is being built entirely by Indian experts. It incorporates many novel features including a new fuel concept.

BARC also produces a variety of radioisotopes in its research reactors for use especially in medicine, industry, agriculture and research. It has been supplying radioisotopes not only to users within the country but abroad also.

In medicine, isotopes have been used for diagnostic and therapeutic applications at various nuclear medicine centres. Radiation sterlisation facility has been set up and made available to medical products, hospitals and pharmaceutical industry. Industrial applications of isotopes have included movement of silt on the sea bed, detection of leaks in buried pipelines, seepage in dams, smoke alarms, level gauges, thickness in steel plates etc.

In agriculture, applications include development of a large number of mutants in cereals and pulses. Mutants of groundnut having higher oil content, higher pod size and higher yield have been obtained and released to farmers for utilisation. Techniques for radiation disinfestation of stored wheat, inhibition of sprouting in onion and potatoes have been demonstrated successfully.

BARC provides a country-wide radiation monitoring film badge service. Surveillance of health hazards, including environment, are routinely carried out at and around all nuclear plants to assess the radioactive releases.

Experience gained in the design and fabrication of control systems and instruments for research reactors has led to the setting up of a separate electronics manufacturing unit as a public sector unit known as Electronics Corporation of India Ltd.

A seismic station at Gauribidanur has been operating round the clock to detect seismic signals from nuclear explosions. An on-line computer immediately analyses the signals and prints out the relevant information.

A Variable Energy Cyclotron has been set up at Calcutta as a national research facility. It is being used by various users including several universities. Major precision parts were indigenously manufactured—some of them for the first time in the country. Work is underway to develop magnetohydrodynamic (MHD) technique for generation of power from thermal plasma. A 5 MW thermal experimental coal based MHD facility has been set up at Tiruchi (Tamil Nadu).

Reactor research centre

As India's uranium resources are somewhat limited, its second stage reactors will be plutonium fuelled fast breeders. A separate research centre where a 40 MW thermal Fast Breeder Test Reactor is under construction, has been established at Kalpakkam (Tamil Nadu) to carry out research and development in the areas of fast reactor technology and the associated fuel cycle. All the major components including reactor assembly, sodium pumps, sodium heat exchanger, steam generator and handling flasks for the test reactor were fabricated by Indian manufacturers. The design, construction and R & D experience generated at this research centre would provide sufficient confidence to undertake the construction of a large fast breeder reactor. Infact the preliminary design of a 500 MWe prototype Fast Breeder Reactor has already been completed. It is envisaged that such reactors may be commissioned in mid 1990s.

New research centr

A new centre for advanced technology has been planned at Indore (M.P.). Here necessary infrastructure will be developed for research in thrust areas of high energy accelerators, lasers and fusion using advanced technology such as plasma physics, particle beams, cryogenics, super-conductivity, computer modelling, microelectronics etc.

Training of person n

Right from inception of the atomic energy programme in the country, emphasis has been laid on the development of scientific and technical personnel so that the country would not have to look abroad for experts. A training school was established in BARC in August 1957. About 150 young graduates in science and engineering are selected every year for a one year integrated course.

BARC also conducts various other training courses to meet specialised requirements such as for hospital radiological physics, radiation medicine, safety aspects in industry, medical research applications of radiation sources including radioisotopes, industrial radiography, research reactor operator, technicians etc.

The Nuclear Training Centre at RAPS, Kota, was set up in 1968 for training, maintenance and operation personnel for nuclear power plants. It trains around 130 graduates at a time in different areas of work. Training includes field training for 18 months at operating power stations.

International relations

India is a member of the International Atomic Energy Agency right from its inception in 1957 and designated member on its Board of Governors as one of the most advanced in the technology of atomic energy. India offers training facilities, fellowships, scientific visits etc. to member-countries of the International Atomic Energy Agency under its Technical Assistance Programme.

Services of scientists from India for expert assignments in various countries under this programme are also being made available. Many experts from India have assisted the International Atomic Energy Agency as Members of various Technical Committees and Advisory Groups. India is one of the founding members of the IAEA Regional Cooperation Agreement for South-East Asian countries and is actively participating in its various programmes.

Bilateral cooperation Agreements in the Peaceful Uses of Atomic Energy have been entered into with several developed and developing countries with mutual benefits to both sides.

(Courtesy : Deptt. of Atomic Energy)

Do you know that

Coffee Plantation is one of the most highly organised industries in the country.

Coffee Plantations cover 2.17 hectares and that the annual production is to the tune of 1.15 lakh tonnes.

Every year we export 85,000 tonnes of coffee worth Rs. 200 crores.

The Coffee industry provides direct employment to 2.7 lakh workers and indirect employment to many more lakhs.

Karnataka, Kerala and Tamilnadu are the traditional coffee growing States and that coffee is being introduced to 12 more States and Union Territories.

The Central Coffee Board Research Institute in collaboration with National Environment Engineering Research Institute, Nagpur is introducing various anti-pollution methods and steps to minimise the use of water in coffee processing during the Seventh Plan period.

A sum of Rs. 6.82 lakh has been earmarked by the Coffee Board to popularise these methods during the Seventh Plan. □

Space technology for India

S. Setty and S. Krishnamurthy

The Indian space programme is organised for an integrated development of space techno-logy to harness its potential for the progress of the country. The programme, within its broad framework, encompasses the development of space technology for carrying both scientific and application oriented experiments particularly in the areas of communication, resource survey and meteorology.

THE INDIAN PROGRAMME which made a modest beginning with the establishment of the Thumba Equatorial Rocket Launching Station (TERLS) near Trivandrum in 1962 for conducting sounding rocket experiments in Astronomy and Aeronomy, soon established a national base by setting up the technological infrastructure and capability for indigenous development of launch vehicle and satellite technologies and generating a core of trained manpower.

During the seventies, the efforts were primarily geared towards carrying out research and development in a variety of scientific and engineering disciplines of relevance to launch vehicles and satellites as well as conducting selected large scale experiments in communications and remote sensing involving the use of both indigenously built satellites as well as those procured from foreign space agencies. In addition to the successful launching of seven satellites, some technological but mainly experimental application satellites for carrying out communication and remote sensing experiments and development of a satellite launch vehicle, SLV-3, capable of launching a 40 kg satellite into near-earth orbit constitute major accomplishments of space technology during this decade.

The eighties will primarily aim at transforming the experimental efforts of the seventies into semi-operational/operational systems to provide space services in communication, meteorology and remote sensing and the development of launch vehicles capable of launching 1000 kg remote sensing satellites into sun-synchronous orbits.

Rocket technology

From the early sixties a variety of Indian sounding rockets have been developed for the exploration of the upper atmosphere and ionosphere and also to carry out astronomy experiments. These rockets, either single stage or two-stage, are spin-stabilised and can launch payloads from a few kg to 350 kg upto an altitude range of a few tens of km to about 400 km.

The decision to develop a Satellite Launch Vehicle (SLV) was taken in the late sixties. A well defined, time-bound project to design, develop and flight test an indigenous launch vehicle for injecting a satellite of about 40 kg into a near earth orbit was initiated in 1973.

SLV-3 had its first successful test flight on July 18, 1980 when it placed a 35 kg Rohini Satellite (RS-1) into an elliptical orbit of 900 km apogee and 300 km perigee at an incilination of 41°. Subsequently, on May 30, 1981, a similar Rohini Satellite was injected into a 180 × 424 km orbit. SLV-3-D-2, the last in this series, successfully launched the RS-D-2 satellite with its landmark sensor payload on April 17, 1983.

Satellite technology

Satellite technology has been mastered by building and launching seven satellites, both experimental and technological, in a phased manner in the decade 1972-83. Indian capability has been established in the design and development of spinning satellites as well as three-axis-stabilised satellites for both near-earth orbit and geostationary applications.

The first satellite, Aryabhata, launched by a Soviet carrier rocket in 1975 was essentially a technological satellite which enabled the establishment of core facilities in addition to providing us experience in the design, fabrication, launch and in-orbit management of satellites.

Bhaskara I and Bhaskara II, similarly launched in June 1979 and November 1981, were experimental earth observation satellites for observing the earth's surface in the visible, near infra-red and microwave frequencies. The Bhaskaras provided valuable experience in integrated end-to-end systems development and application|utilisation, from the configuration of the spacecraft to reception and processing of the remotely sensed data, generation of user oriented data products and their utilisation.

This approach was also followed in the APPLE (Ariane Passenger Payload Experiment) project aimed at acquiring experience in designing, building, launching, operating and utilising a three-axis-stabilished spacecraft in geostationary orbit. The Indian made APPLE spacecraft was launched by European Space Agency (ESA)'s Ariane Launch Vehicle in June 1981. APPLE enabled the conduct of a variety of digital telecommunications|radio experiments and live TV coverage|demonstrations in India.

The Rohini Satellite, RS-1, launched in July 1980 by SLV-3, provided experience in miniaturisation and high density packaging. The second and third Rohini Satellites additionally carried a solid state imaging system, built around a linear photo diode array, for land mark sensing. These were launched by SLV-3 developmental flights in May 1981 and April 1983.

Space applications

The main efforts in space applications are to use space technology for enhancing communications especially with backward and inaccessible regions of the country and develop an effective nation-wide system for the timely survey and management of natural resources and environmental monitoring. In the last fifteen years, a number of applications experiments have been conducted in communications, remote sensing and meteorology.

Realising the potential of satellite television or mass communication and education, particularly in rural India, ISRO developed expertise in space telecommunications, direct TV broadcasting, and the technology of geostationary communications satellite development and their in-orbit management and utilisation.

Satellite Instructional Television Experiment (SITE) was conducted during 1975-76 using NASA's ATS-6 satellite to gain practical experience in satellite-based TV broadcasting to far-flung areas. Satellite Telecommunication Experiment Project (STEP), conducted with the Franco-German Symphonie satellite in 1977-79, was for gaining experience in domestic telecommunications.

The indigenous three-axis-stabilised communications satellite, APPLE, launched in June 1981, provided continuance of the applications programme initiated under SITE and STEP.

INSAT represents the first operational space system in India for domestic communications and meteorology. After the INSAT-IA failure in 1982, the INSAT-1B, launched in August 1983, is the first operational satellite for domestic communications.

Remote sensing

The Indian remote sensing programme aims to develop technolgy and skills required to supply remotely sensed data from spacecraft, aircraft and other platforms, to demonstrate the utility of such data for efficient management of natural resources and for environment monitoring. A number of aircraft-based remote sensing surveys have been carried out for land use studies, soil surveys, agricultural monitoring etc.

Further, the data from the US Landsats and meteorological satellites, TIROS-N|NOAA-6, along with aerial survey data have been utilised for geo-morphological mapping, soil survey studies, land use studies, forest inventory and management, flood mapping, snow melt forecasts, agricultural inventory and crop yield estimates and water-resources survey and management.

The software and hardware for preparing browse products, precision products, colour composites and computer compatible tapes, other data products, the development of visual interpretation and ground truth collection techniques as well as equipment for this programme have enabled India gain the expertise to establish a national end-to-end satellite-based remote sensing system for resources survey and management and environmental monitoring. A National Natural Resources Management System (NNRMS) is under evolution for nationwide co-ordination of various activties pertaining to remote sensing.

Weather forecasting

Use of satellite imagery for operational weather forecasting began in 1960. Seven Automatic Picture Transmission (APT) Stations in the country provide the India Meteorological Department with low resolution imagery in visible and near IR channels from US and Soviet weather satellites. Data from TIROS-N|NOAA-6 satellites are used for sea-surface temperature, cyclone energetics and other studies. Since 1963, India has been regularly making measurements of the upper atmospheric temperature and winds using sounding rockets launched from TERLS. India also participated in the Monsoon Experiment (MONEX-79) deploying four ships in the Indian ocean, to improve the understanding of factors governing the onset, withdrawal, intensity and spatial|temporal distribution of the monsoon.

With the availability of Very High Resolution Radio-meter (VHRR) data and imagery from INSAT-1B, meteorological observations have improved significantly. Reception of local meteorological data from remote Data Collection Platforms (DCPs) through the data relay transponders on INSAT, on a routine basis, will provide an integrated picture of the entire subcontinental weather and climatic pattern.

Programme for the eighties

A perspective for the Indian Space Programme is obtained from the international situation in space and India's developmental needs.

The USA and USSR are rapidly moving to establish orbiting space stations. The US Space Shuttle Transportation System with reusable orbiters is launching satellites with increasing frequency into near-earth orbit from which they can be propelled to their final orbits. The USSR already has orbiting Salyut Stations with which automated space probes dock periodically; the Soyuz space ships take and bring back crews and supplies from Salyut stations.

Europe has developed the Ariane Launcher with France playing the leading role. Ariane's demonstrated ability to place large satellites for communications and other applications into geo-stationary orbit provides independent launch capability for Europe and meaningful competition to the US Shuttle commercial launches. Japan already possesses the M and N launchers capable of launching scientific satellites in low earth orbits and small satellites into geo-stationary orbit.

Using the rocket systems developed for its ICBMs China has already launched eight satellites and recovered some of them. They have recently placed their own communications satellite in orbit.

The Geo-Stationary Orbit is rapidly becoming a scarce resource. Already crowded with communications, meteorology and other satellites, finding suitable geo-stationary slots has become very difficult for late-comers. The 'first-come-first-served' principle followed for many years for regulating parking in this orbit has favoured the nations who possessed the wherewithal to launch and occupy slots.

Plans for India

In this evolving scenario, the strategy for India is clear. If the objective of using space technology for selected national applications is to be realized and the benefits reaped, the country cannot afford to ignore the realities of international geo-politics in space and must develop in independent self-reliant approach.

There are arguments that all countries cannot possess every technology and the late-comers especially from the developing world must perforce be at the mercy of those that possess the technology or have the money to buy it. Such arguments are well-known and not specific for space technology. They are fallacious for any country however small, leave alone the sub-continent of India with its heritage and resources. In the age of electronics, computers and molecular biology, the key to national development and a peaceful and just international order is not dominance of big powers but to discover ways of vanishing disparities through the concerted use of Science, Technology and Humanism.

The Space tasks for India are clear. It must build its own satellites, launch them and put them to use for communications and remote sensing.

With the completion of the experimental phase, the Indian space programme enters the operational phase in the current decade in the areas of communications and remote sensing. The plans during the current decade envisage strengthening the R & D efforts in space applications, communications, meteorology and geodesy and exploring new areas of applications of national relevance, developing operational remote sensing and communication satellites and improving the technology of SLV-3 to launch heavier payloads for remote sensing applications. The following tasks have been set for the Indian space efforts for the eighties.

Launch vehicles

An advanced version of SLV-3 called ASLV is presently under development. ASLV will enable orbiting 150 kg. class of satellites into near earth orbit. Parallel work has also been initiated to develop PSLV, a vehicle capable of launching 1000 kg. class satellites into sun-synchronous polar orbits, primarily for remote sensing missions. The programme calls for R & D in advanced inertial systems, materials and fabrication technology, liquid engine technology, software systems etc. Eventually, the country will establish capability for geo-synchronous launch.

Remote sensing satellites

A new three-axis-stabilized Indian Remote Sensing Satellite (IRS) series, in polar sun-synchronous orbit, is planned for establishing an operational remote sensing satellite system. The first of the series, IRS-1A, is scheduled for launch in 1985-86 from USSR and will carry solid state cameras capable of providing resolutions of the order of 40 metres in four spectral bands in the wavelengths range of 0.4 to 0.9 microns. The data will be used primarily for applications related to agriculture, hydrology, geology and forestry.

The second satellite of the series, IRS-1B, will carry cameras of higher spatial resolution capability, typically between 10 and 15 metres. The IRS-2 series envisages the use of additional sensors for imaging in thermal IR band. The operationalised communication and meteorological services through foreign procured INSAT spacecraft will have to be eventually replaced by indigenous satellites to provide continuity of service in these areas. Plans are on hand to develop such indigenous spacecraft with high reliability and long life.

Collaborative efforts

Space missions are inherently complex and large scale endeavours involving the integration of many disciplines. Though the missions are unique and often outside the experience of a particular industry or institution, the very nature of the technology requires the expertise and facilities in industries and institutions often stretched to their limits. The Indian space programme, from the beginning realised this aspect and has adopted the policy of collaborative efforts to utilise the expertise and infrastructure in other agencies in areas of relevance to the programme. The development of SLV-3 alone involved the participation of more than 20 major industries, some of them in private sector, and several educational and research establishments. □

Courtesy : SPACE, ISRO

Cure for eye diseases

P. Bhattacharyya

The Moscow Research Institute of Eye Microsurgery headed by world famous eye surgeon Professor S. N. Fyodorov has been engaged in treating successfully various diseases of eye through new surgical approach in correcting myopia, corneal transplantation, removing malignancies and tumours affecting the iris and ciliary, correcting cataract, glaucoma, etc. Its latest diagnostic use of scanning ultrasonic biometry electroretinography, vitrectomy and treatment by laser equipment have made restoration of vision a reality for those who had lost all hopes to see again. Currently, the Institute is engaged in reconstructive eye surgery.

THERE CAN HARDLY be a more traumatic experience for man than of inexorably advancing blindness. Thousands upon thousands of people suffer this agony all over the world everyday. Therefore, one can only imagine how jubilant was 36-year-old Margeir Margeirson, a resident of Keflavic, a city in Iceland. An incurable myopic for 25 years, when two laser-aided operations done at the Moscow Research Institute of Eye Microsurgery (MNIIMG) headed by world famous eye surgeon Professor S. N. Fyodorov restored Margerison's eyesight 100 per cent, his joy knew no bound. Yet, it was just one of the 6,000 routine operations carried out successfully at the Institute till recently.

Under the guidance of Professor Fyodorov the MNIIMC is carrying out very important and pioneering work in various fields of opthalmology. In fact, it has become a world centre of eye surgery, which trains hundreds of specialists from other countries including India, France, USA and Japan in different methods of eye treatment developed by the Institute.

Treatment of myopia

One of the most striking achievements of the MNIIMG has been the surgical correction of myopia. People suffering from high degree of myopia constitute nearly one-third of the visually disabled. Surgeons at the Institute treat the cases of progressive myopia with the help of various techniques, especially Keratomyelectomy and scleral buckling. Keratomyelectomy involves partial excision of the upper corneal layer, which is then formed into a lens and replanted into its original position in the corneal layer. The procedure developed by the Institute differs from the similar methods in that the lens here is not frozen in preparation. Out of 120 such operations performed in the institute on patients with non-progressive myopia ranging from 10 to 25 diapters, 80 per cent of the cases regained perfect vision while the rest showed dramatic improvement says A. I. Ivashina, a specialist of the Institute.

Correction of progressive myopia

Progressive myopia cases are treated by scleral buckling. Under this method the surgeon strengthens the alienated posterior ocular segment by grafting. Out of more than 900 such operations carried out at the MNIIMG further progress of the disease was halted for at least 15 years in 98 per cent of the cases.

The basic idea behind the technique for myopic correction developed by Professor Fyodorov is that a series of radial incisions made in the cornea weakens its periphery. The intraocular pressure then forces the incised area to bulge out while the central cornea undergoes a compensatory flattening. This results in the correction of myopic as also of myopic astigmatism.

To an inexperienced observer the operation, which usually takes only 5 minutes and in no case more than 10 minutes and is carried out under local anesthesia, may apparently look simple. The patient is able to leave the hospital as soon as the operation is over. But the brief minutes of operations are preceded by thorough examination programme involving measurements of up to 11 individual parametres. The well-known US opthalmologist Dr. Lambros, who learnt Keratolomy here said that the method opened a new era in opthalmology. Opthalmologists from 17 countries have learnt the technique. It was named the "Russian operation" by the American doctors.

Among the many achievements of the MNIIMG the intraocular lens IOL-2 developed by it is well-known. Known in the international market as Sputnik, it is used in many countries. In the USA alone, the number of Sputnik lenses implanted every year exceeds 5000. The model is unrivalled for lightness. It weighs a mere 5.5 mg in air and 0.8 mg in the eye.

The main advantage of the intraocular correction is that binocular vision can be restored without the need of auxiliary correction. At present IOL implantation is attempted in cases of iris coloboma, mydriasis and other conditions, says Dr. E. V. Egorova, Chief of Department.

New techniques for cataract operation developed at the Institute make it possible to avoid rupturing of the posterior lens capsule. Intraocular lense designed for the purpose are accordingly anchored to the edges of the dissected posterior capsule. In contrast with complete removal of lens, inflammation subsides in half the time with all the vital ocular indices returning to normal functioning more rapidly.

Corneal transplantation

Corneal transplantation is considered one of the most sophisticated field of opthalmology. Despite significant progress in this area, some cases, particularly those associated with edematous dystrophy and burn induced leukoma, have proved extremely stubborn. But now even many virtually hopeless cases can benefit from the artificial cornea or Keratoprosthesis developed at the Institute after a 15-year-long search.

In the first stage of surgery the Keratoprosthesis is inserted together with a temporary plug. Fuse accretion of the implant to the cornea is allowed before the central part of the leukoma is removed and the optical cylinder screwed into place.

All the patients of the Institute who had been earlier pronounced blind caused by extremely severe chemical and thermal burns to the cornea as well as its dystrophic opacification exceeded 260 in number. Almost all of them were able to see again after surgery and the majority of them even regained high visual acuity varying between 0.4 and 0.8.

The Keratoprosthesis developed by the Institute has been patented in the USA, the UK, West Germany, the Netherlands and Italy. It is highly regarded by the doctors of those countries.

Removal of tumours

Till recently the appearance of an intraocular tumour inevitably led to enucleation. The scientists of the MNIIMG were the first to demonstrate the feasibility of removing tumours affecting the iris and ciliary body and at the same time saving the eye. The latest techniques of functional diagnosis provide the opportunity to pin-point the extent of lesion. Coupled with intraoperative techniques of tissue differentiation, it means greater safety in tumour excision while the visual function of the eye is preserved. The new surgical approach for removing malignancies of the choroid developed at the Institute is an unprecedented attempt in the world, says Professor L. F. Linvik, Deputy Director of Research of the Institute.

So far there had been more than 400 such surgery cases at the Institute. The patients were observed for periods of up to 15 years. There were no signs of recurrance or decreasing vision in the operated eye.

Vitrectomy

A large number of ocular diseases lead to opacification of the vitreous and eventual blindness. Yet not till recently surgery on the vitreous was attempted because of the high risk involved. Such surgical interventions became possible only with the invention of a specialised instrument called Vitrectome.

The Vitrectome is capable of excising and aspirating the opacified areas and then filling up the empty space with a special liquid substitution of the vitreous. The latest diagnostic methods including scanning ultrasonic biometry, electro-retinography and others contribute to the success of the surgery.

The introduction of vitrectomy into clinical practice made restoration of vision a reality for those who had lost all hope to see again. The actual cause of blindness in such patients is diverse, which include diabetic hemorrhage into the vitreous, high blood pressure, injury, vitreous opacification of inflammatory and degenerative nature. Following surgical interventions one-fifth of the previously incurable cases responded with a high visual acuity and about a third of the patients could differentiate shapes of objects.

The scientists at the Institute constantly try to expand the area of the application of the vitrectome. It is now used to tackle severe forms of diabetic retinopathy and removal of the lens luxated and subluxated into the vitreous. The lensectome is a special device developed at the Institute to facilitate extraction of opacified lens. The surgeons can now approach the lens leaving the cornea intact. The unit can also be adapted for more easy extraction of cataract.

Treatment of glaucoma

As Prof. S. N. Fyodorov says, the scientists of the Institute are successfully moving forward now in a number of new directions. The concept of open angle glaucoma is one of them. According to

specialists, cataract and glaucoma are the two worst eye diseases that are responsible for most cases of blindness.

After thorough research the scientists of the Institute came to the conclusion that glaucoma is essentially an ischemic disease which affects the anterior segment of the eye. At the initial stage here is almost 3-fold reduction in blood supply. This, in turn, leads to dystrophic changes in the occular draining system and in consequence, to elevated intraocular pressure.

To cure glaucoma a superficial scleral flap is inserted into the opening of the anterior chamber angle. The scleral tissue rich in small capillaries drains off the excess intraocular fluid, which the faulty ocular draining system is not able to cope with. This results in lowering the intraocular pressure and consistent improvement in the course of glaucoma ensues.

Laser equipment has a great future in opthalmology. Certain types of radiation produce a beneficial effect on metabolic processes in retina. This quality of lasers is made good use of in the treatment of ambliopya—"functional" retinal blindness. Half the patients with persistent blindness resisting conventional treatment responded to laser irradiation with restored vision, says, Dr. Fyodorov. The scientists of the Instituto are now approaching another new landmark in opthalmology—reconstructive eye surgery. The progress in this field is in no measure due to the extensive use of computer technology.

A message of hope

The scientists of the Institute led by Professor S. N. Fyodorov are now trying to develop a new treatment, which would make it possible to enable the old people to do away with their glasses worn for far-sightedness. In fact, Professor Fyodorov has always been against wearing glasses. "Treatment for eye diseases tested by thousands upon thousands of operations performed in our Institute, make us feel confident that glasses can be done away with. Each individual should be able to see the world unaided by glasses, using only his own nature-designed corneal organs rather than artificial devices", Professor S. N. Fyodorov stresses. That is indeed a great message of hope, for today civilisation subjects man's eyes to so much strain that by the time one is 15, signs of wear begin to show. And with the rapid explosion of knowledge pressure on the eyes is expected to increase more. □

P. R. Dubhashi

A Serialisation 11

The process of planning

Planning has to be done for various time-periods, sectors and levels. It has to be given a concrete shape by formulation of policies, programmes and projects. As the national plan has to reflect the popular consensus, it has to pass through successive stages for formulations, discussions and clearances. Moreover, a suitable and effective machinery has to be devised for plan implementation, the author says.

PLANNING IS NOT a simple once-and-for-all operation to be completed in one step. It is a complicated-web of a connected series of operations. It has to be done for various time periods—long term, medium term and short term. Aggregative national planning has to be followed and linked with the planning for various sectors—primary, secondary and tertiary, public cooperative and private. It has to be done at various levels—national, state, district and other local levels, and finally the project or enterprise level. It has to be given a concrete shape by formulation of policies, programmes and projects. Its practical success has to be ensured by devising machinery for plan implementation. Resources have to be assessed, identified and mobilised for providing the wherewithal of planning.

Popular consensus

All these aspects have to be tackled, one by one, with the help of different departments of government and specialised agencies, expert groups, including economists and technicians, representatives of business, labour, consumers and other interested groups, political parties, voluntary institutions and indeed the people at large in a democratic community.

The national plan has to reflect the popular consensus and hence the need for popular involvement in the process of planning. In some countries, plans need to be approved by suitable legislation and in any case the plan, when it takes shape, needs to be approved by the Cabinet and the Parliament. In a federal set-up, the plan must have the clearance not only of the federal government but also governments of the constituent units. To achieve all this, the plan has to pass through successive stages for formulations, discussions and clearances. That is why, as W. Arthur Lewis has rightly observed : "Planning is only in part an economic part; to an important extent it is also an exercise in political compromise."

Since the plan period represents comparatively a very short interval in the life of the national community, it is necessary that these plans are formulated against the backdrop of long term goals and trends. This is what the perspective plan seeks to accomplish. Such a perspective plan must take into account not only the economic trends of the past, but also the innovations and changes which science, technology and organisation are likely to introduce. Surveys and futuristic studies must provide the basis in the preparation of the perspective plans. The perspective plans, therefore, have to be the work of experts. It may be left to the perspective planning division in the plan orgainsation which may parcel out the work to research institutions.

The Perspective plan

The perspective plan must have the commitments of the political authority. However, in non-communist democratic countries, the government that be has political authority for briefer intervals. The parties in power may change with the next election and the perspective of one party in power may be different from that of another. This may cast doubt on the sanctity of the perspective plan.

A five year or seven year plan has to be a more definitive document. It normally passes through several stages. Thus, in the Indian process of planning, it passes through at least three distinct stages. First, preparation of the approach document, second, formulation of the draft plan and the third, preparation of the final plan document.

At the approach stage, the planning authority has to prepare a brief document evaluating the achievements and failures of the last plan and in the light of such evaluation the goals that need to be accomplished through a fresh plan. Such goals have to be articulated in terms of growth rate, employments, incomes, its distribution and output mix and targets of principal commodities. The strategy for reaching these goals and the policy framework that is needed may have also to be indicated in general terms. At the approach stage, the focus is on general magnitudes like size and sectoral allocations rather than on the details of the programmes and proposals.

Sound forecasts

The approach to plan, however, cannot be based only on evaluation of the past and hopes for the future. It must be backed by technically sound forecasts. These forecasts have a particularly important place in the process of planning in the western economies.

Thus in France, a year ahead of the plan itself, Commissariat du Plan and the Department of Economic and Financial studies (SEEF) jointly explore the field of the plan by investigating for the period of time it is to cover the prospects of the development of the economy. The Dutch forecasts, viz., "An exploration of the economy potentialities of the Netherlands 1950—70" is another example.

These forecasts are particularly relevant to planning for an economy which allows considerable amount of freedom to consumers and producers. Forecasts are a futuristic analysis of spontaneous behaviour. This is not so necessary in systems of centralised planning as in Soviet Russia. But even their forecasts of technology are necessary; nor can changes in the future scales of preference be entirely ignored. These forecasts are based on several assumptions and may not entirely be foolproof. However, they are in the words of Bauchet, "as indispensable preliminary to any Plan. The merit of the forecasts is that they indicate the nature of development in the distant future so that a rational choice can be made between various rates of expansion."

After taking the information and forecasts into account, the political authorities in France decide what the rate and nature of expansion shall be and send their instructions to the Commissioner General. These instructions are the framework into which the Modernisation Commissions must fit their efforts. Thus, if forecasts constitute the technical part of planning, the 'instructions' would reflect the element of political choice. But the forecasts enable the 'instructions' to be objective and not just arbitrary political choice.

The approach document is a tentative document which clears the decks and sets the process of plan. It is tentative not only in its magnitude, even its assumptions are liable to change. The approach document could be discussed by various technical and departmental organisations. It can form the basis for nation-wide discussion on the plan in the pipeline. Indeed, one of the objectives of preparing such a document is to invite suggestions and ideas from as wide a circle as possible.

The draft plan

On the basis of the reactions to and the observations on the plan documents, more detailed information is collected by the planning authority. The draft plan may thus be prepared. Some time it may be described as a plan frame.

The detailed work necessary for preparing the draft plan may have to be done through a series of working groups consisting of economists and administrators from various departments, interested groups or advisory bodies. The deliberations of the working groups may not be very fruitful unless the departments do their own home work. The heads of various departments may appoint their own study groups for each of the important sectors or sub-sectors. The working groups may hold a series of meetings or form task forces.

The integration of the reports of various working groups dealing with various aspects of planning like resources mobilisation, or manpower planning or dealing with various sectors of planning have to be coordinated in terms of a consistent plan frame. The staff of the planning authority would have, therefore, to associate themselves at all stages with the deliberations of the working groups and help the formulation of the sectoral or aspectwise plan documents and their suitable integration.

In a system of planning for a mixed economy, it is essential to plan for the private sector as well. The process of planning for private sector may have to be different from planning for the public sector. For the former, planning must involve private entrepreneurs as well. Committees for planning in different sectors must have on them the representative of the private sector. The targets cannot be imposed *a priori* by the public authorities but these must be formulated on the basis of schemes formulated by industrial firms and business houses as well as trends regarding consumer preferences. All these will have to be assessed and formulated by the committees where business interests are represented. This will give them the feeling that they have helped in formulating the plan and are responsible for their implementation.

The draft plan at the national level has to reflect the draft plans at the state levels, the local levels and the enterprisers. These have, therefore, to precede the formulation of the national draft plan and they will have to be integrated at a successfully high level. This procedure would require a fairly detailed time table which has to be followed in practice. However, the time-table for the preparation of the plan may get upset by the failure on the part of some agency or the other to give a final shape to its own contribution.

The draft plan so prepared must have the seal of approval of political authority before the planning authority could go ahead preparing the final plan. If the political authority wishes to make certain changes, these may have to be accommodated by the planning authority by suitably revising the draft If the planning

authority keeps the political authority informed of the progress in the process of planning through various formal or informal channels of communications, the draft plan can pass muster without much alterations. It is one of the functions of the draft plan to produce various alternatives so as to enable the political authority to make the final choice. If the planning authority is able to produce clear-cut alternatives, it will facilitate the choice by the political authority. But there may be ambiguities or new problems or objectives may be thrown up at the stage of consideration of the draft plan and this may delay the formulation of the final stage.

The final document

The final plan has to embody all the revisions in the draft which have been finally accepted and at the same time work out in fair amount of detail various programmes and policies. The plan document has to consist of a number of chapters dealing with approach, size, general content, allocation of resources, estimate of resources, sectoral programmes, manpower programmes, administrative organisations, spatial dimensions, etc. The final plan document may be printed and may run into a thousand or more pages. The document has to be signed by the members of the planning authority and may have to be formally approved by parliament. In some countries, a law is enacted approving the plan.

It is necessary that the various stages in the plan formulation are completed on time or else, as it happened in India, the final plan document would be out only after the plan period has already commenced.

In some cases, even the inauguration of the plan may have to be postponed, thus resulting in plan holidays.

Annual plans

The five year plan or the seven year plan is implemented from year to year. Hence annual operational plans, coordinated with budget are also to be prepared. For annual plans also, working groups may have to be constituted to prepare details of the annual plan. The annual plan document must contain details for various projects, and time schedule for construction. In a large country, where the administration is federal in nature, the working groups may have to consist of the representatives of the State Governments, the Central Government and the planning authority. Thus, while the current annual plan is in operation, the next year's annual plan has to be formulated simultaneously.

In a planned economy, the budget must clearly exhibit the development plan on the capital side of expenditure. This has to be a coordinated exercise between planning and finance authorities.

Such an elaborate procedure of planning may be time consuming. Indeed it may degenerate into a ritual and its result may not be commensurate with the time spent by the numerous agencies. After all plan procedures are not an end in themselves. But there is every fear that this may happen with the result that the very basic purpose of planning and considerations of basic issues in depth may well be sacrificed at the alter of the plan procedure.

Both the annual plans and the intermediate period plans will have to be continuously modified in the light of experience. The experience may be assessed through systematic evaluations. In India, annual plans are evaluated but the result of evaluation may not be available on time so as to facilitate suitable changes in the new year plans. In addition, there is a mid-term appraisal in the Indian planning process.

The plan procedures by themselves are not enough. What is needed is the ability to assimilate the result of experiences and studies and their articulation in terms of more worthwhile plans. □

Treating corneal diseases

Associates of the Research Institute of Eye Diseases and Tissue Therapy of Odessa (USSR) have evolved and introduced a new method of treatment for severe corneal diseases.

When a patient's eye develops a persistent ulcer, his eyesight deteriorates catastrophically. Specialists know that such ulcerous lesions and other cure-resisting erosions can eventually destroy the eye. For many years attempts have been made to find a cure for this ailment. But only recently has an effective method been devised. A technique proposed by Professor Nadezhda Puchkovskaya, Director of the Institute, is based on coating the affected cornea with special biological agents. This curative "shield" stimulates rapid healing. □

National waterway from Haldia to Farakka

THE GANGA RIVER STRETCH between Allahabad and Haldia has been declared as a National Waterway. With a view to developing the above waterway, the total waterway length has been divided into three stretches: (i) Farakka-Haldia; (ii) Patna-Farakka; and (iii) Allahabad-Patna.

In so far as the development of the stretch between Farakka and Haldia is concerned, the scheme for providing infrastructure facilities on this stretch had been sanctioned and is being executed on an agency basis by Central Inland Water Transport Corporation and Calcutta Port Trust. The Scheme includes terminal facilities at Haldia, Nabadwip, Triveni and Barhampur.

In order to implement schemes on the National Waterways, it is proposed to set up a separate authority. Such an authority, when set up, shall be able to complete the scheme on the National Waterway more efficiently as time bound programmes. □

Stroke

Dr. M. C. Maheshwari

Stroke is a disease of the brain. It is the third commonest cause of death after cancer and heart attack in the past middle age group people. Strokes can occur at any age, but essentially it is a disease of elderly people. The author calls for creating awareness of the problem in the forties with adequate treatment of hypertension and giving up of smoking.

STROKE OR CEREBRO-VASCULAR accident is disease of the brain resulting from the abnormalities of blood vessels. (Blood vessels constitute arteries veins and capillaries. Arteries carry the oxygenated blood from the heart to various organs of the body, and veins bring back the used blood from different organs to the heart and then to lung for oxygenation and removal of carbondioxide). According to world statistics, stroke is the third commonest cause of death in the past middle age group people. The other two causes are cancer and heart attack. Strokes can occur at any age, but essentially it is a disease of elderly people.

Of all the strokes in India, about one-fifth occur in the age groups under forty (which is called stroke in young). Exact incidence of mortality and morbidity due to stroke in India is not known, but a fair percentage is made disabled every year. Western statistics do indicate a reduction in the incidence of stroke in last two decades and this healthy trend is attributable to reduction of rheumatic heart disease and improved control of hypertension.

Brain gets almost 1/6th of the total blood, while it weighs only 1/60th of whole body weight. Brain utilizes maximum amount of glucose and oxygen for its proper functioning. Irreversible damage results if no oxygen or glucose is available to brain for three minutes. A person may become unconscious if there is interruption even for ten seconds. Brain receives this amount of blood via two carotid arteries in the front and one vertibro-basiller artery system in the neck. One should appreciate that the vertebral arteries pass through the bone before entering the brain. These two systems have communications to help in the adjustment of blood volume to both the halves as well as various parts of the brain. Blood supply to the brain is so vital that nature has given autoregulating mechanism to adjust the blood distribution.

Why stroke?

Arteries (blood vessels) are the delivering pipes. Any disease process which may lead to occlusion or rupture of these pipes will result in a stroke. The disease process may either be in the lumen, in the wall or outside the wall to cause occlusion. Occlusion of the luman wall lead to what is called Ischaemia and, therefore, ischaemic stroke. Rupture of the vessel will lead to haemorrhage and, therefore, haemorrhagic stroke. There are many factors which will influence and determine the extent of ischaemia and, haemorrhage. Understanding of these factors is of utmost importance and purpose of this discussion will be served if these are appreciated.

At the critical point of occlusion if the blood pressure is low, great degree of ischaemia will result. On the other hand if blood pressure is high, at the time of rupture, greater amount of bleeding will occur. This means a high degree of blood pressure is as bad for a haemorrhagic stroke as low blood pressure for an ischaemic stroke. This leaves no doubt on the need of a reasonable adequate blood pressure. There are, however, some factors which are not in our control.

Causes of stroke

As mentioned earlier, there are several causes of ischaemic strokes. Atherosclerosis is by far the commonest cause in elderly patients. Atherosclerosis is essentially an ageing process which lead to hardening of the arteries. Hardened arteries lose resilience and it leads to systolic hypertension. Hypertension, diabetes, hyperlipidaemia (Hypercholesterolaemia) aggravate atherosclerosis. A fair number of patients before developing the stroke have several transient ischaemic attacks (TIA) of local neurological deficit. The TIA lasts for a few minutes in majority of the cases but never lasts more than 24 hours. These are due to microemboli with arterial occlusion or haemodynamic with relative ischaemia or acute

hypertension. TIAs are warning signs before the occurrence of the stroke. This is the most important point to remember as something can be done at the stage of TIA, but nothing much can be done once a stroke has taken place. Another important risk factor which aggravates cerebral inchaemia is smoking and, therefore, it requires your consideration to stop smoking. For haemorrhagic stroke there are several causes but hypertension is the most important cause. Adequte control of hypertension has definitely reduced the incidence and severity of haemorrhagic stroke and benefited ischaemic strokes as well.

Diagnosis

Diagnosis of TIA and stroke is not difficult and mostly depends upon a good description by the patient or the relative. Symptoms (like paralysis, blindness, unconsciousness etc.) are of sudden onset and after a critical period there is always a history of improvement if the person survives. Haemorrhagic strokes are more common during exertion and activity while ischaemic strokes take place during sleep and inactivity. All body parts and functional activities are represented in the brain. From the impairment of body functions a doctor clinches the site of lesion in the brain. Medical technology has really improved the diagnostic capabilities in last 10-12 years. Computer assisted angiography, CT scan, Doppler blood flow and NMR have contributed a lot not only by providing non-invasive methods of diagnosis but also the specificity and accuracy. However, one should remember that these advanced technologies cannot replace the medical history. I strongly recommend you to observe the illness in as much detail as possible and pass on all the information to the doctor for correct diagnosis.

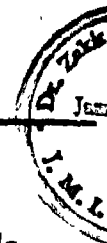
Stroke in young

As for the stroke in young, we in India are more concerned about the peripartum strokes i.e. stroke occurring in women either during pregnency or soon after birth. By and large women belonging to poor socio-economic status are affected. Some study has been done, but the exact cause remains still elusive. This is the area where research activities should concentrate.

Treatment

As I have mentioned earlier, one should not remain unconcerned till the stroke occurs. Treatment should be istituted with the first occurrence of TIA. There is medical as well as surgical treatment available and your doctor should take the responsibility for advising you. Prevention and management of the risk factors are of utmost importance. Specialised medical attention is of great importance in the first 48-72 hours of occurrence of the stroke. One cannot do much for the dead brain tissue. However, all attention should be paid to revive the surrounding and partially damaged tissues. This would determine the degree of recovery as well as the rehabilitative potentials. The partially damaged tissue requires adequate glucose and oxygen. Some cases do require the management of vasospasm and increased intracranial hypertension. Once the critical period is over, the only therapy then is physiotherapy. The role of physiotherapy and rehabilitation is to make the disabled person as much independent as possible in the activities of the daily living.

In conclusion, I would like to emphasize that there should be awareness of the problem in the forties. Hypertension should adequately be treated Smoking should be stopped. TIAs should be recognised by the doctors as well as the patients and specialist consultation should be sought. Funding organizations should be alert and liberal to promote research in the areas relevant to us in India. □

(Based on public lectures series of All India Institute of Medical Sciences, New Delhi

Computer literacy in schools

IN AN EFFORT to prepare for the launching of the pilot project for Computer Literacy and Studies in Schools (CLASS) in the country, a three-week training was imparted to 550 school teachers in 17 resource centres in different States recently.

Teachers attending the course were trained thoroughly on the structure of the system so as to enable them to detect simple faults and take corrective steps. The basic programme that they underwent included—(1) getting started, (2) programming in BASIC, (3) programming in logo, (4) ability to put the system together, (5) how the printer works, (6) BBC micro-architecture and general computer organisation, (7) ability to use spread sheet word processor, data base and graphic packages, (8) history of computing, and (9) experience with CAI packages to be used in schools.

CLASS is being introduced in 250 higher secondary schools dotted all over the country with a view to familiarising school children with micro-computers and to assess the effectiveness of micro-computers as a tool for the promotion of interactive and creative learning and teaching in the schools. Micros are different from traditional tools of learning and educational technology, since they offer an opportunity to the learners to give commands to the machine and to get responses in the form of numerical results, written texts, graphics and pictures in colour, besides answers in the form of sound. It is expected that a child learning to use the machine, will develop higher levels of intellectual ability and creativity to use all these modes in an integrated manner.

The project aims to introduce computer education at the senior secondary level which is expected to be extended to the middle and primary levels. Computer education could also be a part of the curriculum for every student irrespective of the area selected for specialisation, the project will ensure. □

20,183 villages electrified in 1983-84

OVER TWENTY THOUSAND villages were electrified in 1983-84. This is 14 per cent more than the set target of 17,716 villages for the year. Similarly, a total of 2,80,434 pumpsets were energised exceeding the target of 2,76,439, despite severe constraints and damage caused by cyclone and floods in some States. The achievement in pumpset energisation represents a rise of 21 per cent over the preceding year.

Thus, on an average, 55 villages were electrified and 768 pumpsets energised everyday during the year.

In the year 1969, when Rural Electrification Corporation was set up, only 13 per cent of the total villages and 9 per cent of the electric pumpset potential in the country were electrified and energised. By the end of March, 1984, the levels of village electrification and pumpset energisation rose to 60 per cent and 44 per cent respectively.

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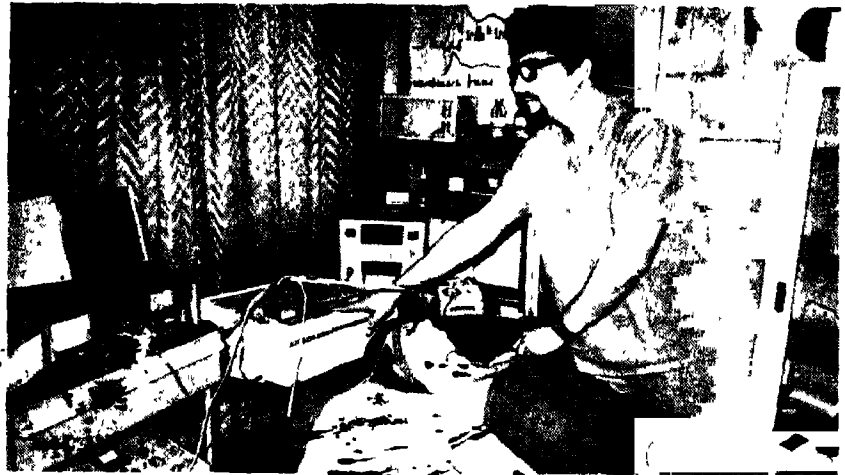
Hope for eye patients

A laser surgery in progress for restoring eye sight in the Moscow Research Institute of Eye-Microsurgery

Professor S. N. Fyodorov examining Khwaja Ahmed Abbas, a noted writer, film director and producer, for removal of a cataract from his eye

World famous eye surgeon Professor S. N. Fyodorov, Head of the Moscow Research Institute of Eye Micro-surgery, engaged in treating successfully various diseases of eye through new surgical approach in correcting myopia, corneal transplantation, removing malignancies and tumours affecting the iris and ciliary, correcting cataract, glaucoma, etc. For detail see page 27 of this issue

Correcting myopia by surgery.

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The Keynesian relevance

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The counter challenge

NEXT ISSUE

Annual Number 1985

Hindustan Antibiotics does a good job

THE FIRST PUBLIC SECTOR UNDERTAKING to produce vital drugs in the country completed 30 years of successful working in 1984.

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For new subscriptions, renewals, enquiries please contact : The Business Manager, Publications Division, Patiala House, New Delhi-110001.

Our Contributors :

S. K. Dey—former Union Minister for Community Development and Cooperation, New Delhi; **S. K. Ray**—a noted author on economic subjects, New Delhi; **Vasant Sathe**—Union Minister for Chemicals and Fertilizers, New Delhi; **R. D. Jakati**—Dy Director, Forest Survey of India, Nagpur; **Dr. (Mrs.) S. Kumar**—Lecturer, Institute of Home Economics (Delhi University), New Delhi; **D. K. Dixit**—Research Scholar, IIT, Pawai, Bombay; **Dr. H. P. Maheshwari**—Lecturer, ASPG College, Sikandrabad (UP); **Prof. S. K. Kackar**—Head of Otorhinolaringology (ENT), All India Institute of Medical Sciences, New Delhi; and **P. R. Dubhashi**—Director, Indian Institute of Public Administration, New Delhi.

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The counter-challenge from S. K. Dey

In this spirited narrative, S. K. Dey, the former Union Minister for Community Development and Cooperation, blames 'Yojana' for 'under-stressing' the 'spirit' of voluntarism and making matter alone the core of its quest in its November Special, "Testing voluntary agencies". In this 'counter-challenge', he makes out a strong case for a very distinctive role of voluntary agencies in creating, what he calls a "Forum for Freedom"—as a people's movement to counter hypocrisy and build up life style which is in perfect harmony with the quintessence of Indian philosophy—"every soul is potentially divine".

'YOJANA' NOVEMBER SPECIAL, "Testing voluntary agencies", carried a review of voluntary action from many fronts. The issues discussed have been comprehensive as regards implementation of programmes in or outside the plan. No doubt, the subject will be examined threadbare. But a view in retrospect leads one to suspect, as if matter alone had been the core of the quest thus far. Matter, however, can only follow when preceded by the spirit. The latter perforce must acquire the priority in the quest, more particularly, as far as voluntary action is concerned. But this, it is feared, has been understressed, if not altogether missed.

The current article with initiative induced from the Chief Editor's editorial in the issue, is being offered, therefore, as a counter-challenge. The hope is that this may accelerate the impulse to dip within afresh and perhaps also to chisel the concept into shape, for effective translation into practice. This aspect has seemingly been a relatively low priority in the eyes of the Planning Commission. Should not the Commission with 'Yojana' its organ, be amongst the prime movers in this behalf ? It was so once in 1952, when the community development programme, since buried, had been spearheaded under the central committee created round the Planning Commission.

This evolutio

Human being as a superior animal, is claimed t have evolved around a hundred thousand to a millio years back. No living creature, even a rogue, ca live by oneself alone. Therefore society evolved an spread in slow but steady steps as a process ove time It has already passed through the tribal, feudal capitalist, communist and the socialist patterns. Th multitude of permutation and combination, in between could perhaps be ignored for the time being Life mus therefore be accepted as a process rather than a end. Perfection at any stage, or in any form, will b a fiction. We may also, for the purpose of this not leave alone God, Providence or any other force governing individual life. One must however not fail t recognise that there is a cosmic law which govern conduct, balance and the totality that composes th cosmos. This would appear beyond question, n matter from what angle one views it. That there ha to be change inexorably in shape and characte whether of matter, mind or spirit over time, look equally certain. For, there can be no room for life o matter, that can stand static. Therefore "shangrilla" must be kept in reserve for dreams. Change, an eve organic process, must be given precedence in thinking and planning.

To hold the animal man within his tether, and to prevent him from encroaching on the rights of others, religion, rituals, dress, language, art, culture and the like have all emerged in their virtually endless manifestation in diversities and richness. Political, economic and social systems have evolved to suit geography, ethnology and ecology of life that prevails in a fantasy of variations. After the relatively primitive stage of life had been outgrown, the new age of politics came to play its role. It evolved again from piracy, plunder, pillage and conquests to colonialism. The first and second World Wars virtually sealed the end of the colonial era but for minor exceptions such as South Africa and a few others. These continue to flicker for a time, as a hang-over of the past. But, man the animal, is still not free of the fetters that bound him over the ages. Colonialism even though ended is taking increasingly the guise of neo-colonialism on a much wider front.

And the new virus

The new virus demands urban areas colonising over the rural. The growing elite of the cities have their umbilical brotherhood in the erstwhile colonial West with the neutral Swiss Banks acting as the smiling brokers in between. The old system has but taken cloaks to promote harlotry in many shapes and forms. The international brotherhood of the "haves" who are few but growing, and the pillaged and raped—the many—who are the "have nots", predominantly though in the developing nations, reflect the new drama rolling across the world stage The body of man has grown in its powers, thanks to new science and technology, adding to his grasp and control of matter. His heart seems somehow to be in a state of steady shrinkage, retreat and decline, virtually in inverse proportions. Instead of being the tools for furtherance of, and well being in life, science and technology appear to be growing into monsters clasping man in the tentacles of an octopus. His powers of killing and extermination eclipse the devils in fables The increasing depredation and devastation, he has begun to cause to other forms of life minus all mercy, not to mention empathy, is a cruelty beyond all definitions. Man seems today to be the only species in life, in the desperate march towards annihilation of himself and perhaps also of life as a whole off the earth. The spirit of man sinks in direct proportion as he begins climbing high and higher, with implications of war from space.

Politics in the world has thus begun to put on totally new garments. Feudalism built a culture that had been selective in kind, capitalism with its corollary of colonialism led to a culture selective in space. The insatiable appetite that colonialism brought in its wake, along with capitalism, gave birth to communalism—as its counter weight in the style of an eliminative challenge mutually. The two systems are now at their apieces, struggling to divide the world evenly between them, through proxies to start with. Capitalism seeks total freedom for the individual to earn, amass and squander leading to exploitation of the many outside the charmed circle, both at home and abroad. Communism offers the basic needs such as food, clothing and shelter to all, but denies totally the freedom to differ with the system that rules. Admittedly, there would not perhaps be even a talk world wide over mass eradication of poverty, had communism not held the threat as a champion of the poor and deprived. Strangely, the two systems coexist in even competition, even though they cannot but be at war. One holds the torch of freedom but leads to gross exploitation; the other offers alleviation of mass poverty but threatens the freedom of man. What can guarantee the survival of man as a species in the absence of a force that can weld the "pluses" and eliminate the "minuses", in the two systems biologically so opposed to each other ?

A crippled democracy

Democracy as a political system, which we too aim at in India is getting increasingly crippled under a hypocrisy more stunning than one can conceive. The game of dice has already gone beyond the capacity of the good and the decent in society to umpire. Not even the most radical of amendmets to our Constitution can bring about a change in the character of the system, if the record of amendments since inception, is to be an honest criterion. A fifth estate alone could act as the counterveiling force. It was called the "Estate of the people". But that can act as another temple added to the Indian Pantheon. The dire need of the hour for survival with sanity, is a "Forum for freedom". The animal man must grow to be the free sovereign he had been designed by nature to be, whether in muscles, nerves, mind or heart, here and every where. This cannot be brought about by the competitive political, economic and social systems now at play. Nor can the ghosts in the systems be exercised by any means feasible. The systems can be made subservient to the people, only if they can be subject to the unrelenting pressure of enlightenment and measures such as can counterveil. Such a force for freedom and objectivity must grow from the grass-roots. It must be non partisan, as regards party politics. It must be non-competitive and human, totally and comprehensively. What could be its terms of reference and who could serve it as an ever renewing forum and how ? Before these aspects may be examined, some further scanning of the crisis and the environment is called for.

Power is a gravitational force of the mightiest kind ever alive to its exercise whether in mind or matter. It calls for taming, if it were not to be self-annihilative. It has to be held in balance between the biologically opposite pulls—one towards total autocracy, the other towards utter anarchy. Autocracy, because of its centrepetal pull, can lead but to exponential growth in arms and armed forces. Police, intelligence, bureaucracy, public sector so-called, and politics as commerce. One need not go very far to have a view of the growing "Black dwarf" in the current context of science and technology. One can also see as a corollary, the conscription of scarce resources and the circumscription in the rights and well being of people that follow as a natural course. One can hardly grudge the fears and complaints of neighbours. Nor need one wonder over the tragedy of it all in its ultimate and, whether in the first and second world wars,

and what has followed in our own sub-continent, ever since Independence till yesterday.

Nehru's warning

As regards anarchy, that too we have had and seen in ample measures throughout history, upto the times that are current. The author had a near midnight interview with Nehru early May, 1964. Nehru appeared to have been in a mood of grave introspection. He stated in categorical terms, that minus a counterforce such as could extend effective authority, responsibility, resources and competence down to the grass roots, and sustained so through enlightened vigilance by people, our freedom would be in grave peril. The long struggle for "Independence" had been won with glory. The battle for "freedom" had hardly begun. The prophecy went far beyond what even he could then imagine.

Twenty years after Nehru is no more, we discover to our horror, that there are hardly any basic differences in practice, even rhetorics, between political parties from the crowning one to the near cipher. They appear interchangeable who ever come to occupy the "Totem" seat of power anywhere in this yet feudal society. Is it any wonder, that Gandhi's last testament was the abolition of the Congress, as a political party and its transformation following Independence to a "Lok Sevak Sangh" ? His life, motto of Swaraj was—"not the concentration of authority in a few but the acquisition of the capacity in the many to regulate authority when abused". Throughout his struggle, he had put "power to the people" as the key to the swaraj to which he had pledged his life. Monolith of power was a horror to him. Following the precept of Gandhi, Nehru pursued, with his heart fully pledged to Panchayati Raj, Sahakari Samaj and Samuhik Vikas as the triple system for transfer of power secured from the British, back to the people, as the legatees to shoulder it. The manifesto for Samuhik Vikas early 1952, included the sanction for the "right to life" as a core in a single sentence approved by himself with support from the Planning Commission and allied ministers present. What followed after him, is open for the people to see and ponder !

A 'forum for freedom'

The intervening years since, have brought out transparently, what can happen when power descends without a counterweight whether at the apex or down below. A "Forum for freedom" as the fifth estate for our democracy is therefore an imperative as deterrent to abuse of authority, wherever it occurs from the national capital down to the people. Even short of a forum of the kind, we have seen what could really happen in the creation of the Andhra State, and how the supreme power had to bend its head down before the will of a people-alert, awake and determined, only in recent months. We have also seen what a relatively little country--North Vietnam with its rudimentary arms, but elemental will did to bring the mightiest of power on earth to bend its head down, and seek a way of retreat and escape for itself. But the will alone is not enough. How do a people secure immunity against mass hypnotism, no matter of what kind ? We must necessarily come to an institutional pattern, perhaps of a totally different kind. "Lok Sevak Samaj" implied plans and programmes of action. But at the current phase of development in the country, plans and actions must initiate and flow through government. Panchayati Raj, Sahakari Samaj and functional institutions of democracy of varying kinds based on voluntary action by the various sectors of the community, must play their appropriate role. How do we enable "the many" to acquire the capacity to regulate authority when abused, as prescribed by Gandhi ? There can be no short cut to this consummation, nor is there a talisman. This has to be a living process, renewing and perpetuating itself such as nature.

What it means

We come back inescapably to the 'Forum for freedom". The forum must work for a triple charter of rights—"to live", "to work" and "to receive what is earned". The rights must be backed by a triple tenet of faith— muscles can do it , muscles can be trained to do it" and "conditions can be created to do it'. These are not stated here as rhetorics. These have been tried out soon after August 15, 1947 and tested on a limited scale, under Nehru himself. The camp concerned, consisted of a group of people out of those displaced from Pakistan. They were asked to work out their destiny, guided and inspired by themselves, with support and assistance from Government headed by him. One of these human laboratories—a living rural-cum urban township still survives flourishing and totally free of the communal virus, skirmishes and bitterness that tarnished this land, to a near disaster in recent days.

India despite her legends in the long past, is caught in the whirlpool today that shakes the world throughout. This has been seen, examined and reported on, by the author following his odyssey across the world, on behalf of the United Nations, some years back. Politics, economics and sociology as a whole suffer from grave distortion as the product of "two nations within nations." Slowly but steadily, the world is being driven to the abyss that stares not very far ahead. No political party known in India today, has the integrity, dynamism and earnestness, to comprehend in the blood flowing in their veins, the dilemma facing mankind for its survival as the latest in evolution.

A people's organ

A new organ of people is therefore an imperative, if there is even to be an effort towards liberation of man to "freedom". It must eschew office totally in politics in any form, and so also hypocrisy so typical and ancestral in our tribe ! Men and women, especially the elders with spine still erect, have had satiety with the past of our politics. They are crying all across India, for a creative outlet for their yet unspent talents, elan and verve. They can be expected truly, to be not purchasable any more at any cost. This must also include exclusive professionals, especially in the faculties whether in the academies, universities,

including agro-ones in particular. It must also invite press people, not bond slaves for wages, but with their feet on the Indian soil, willing to accept harness and offer support moral and human to the new movement as it grows. There wait growing armies of youth, in body, mind and heart, who crave and cry to take up extra-curricular work outside their work-a-day life. They are to give, what is its own return, as used to be the code for youth in the ages long behind. They are sick and tired of the parody of politics that has been at play over the years. This group must swear, as precondition to their membership, as they will with a smile, to abjure politics of partisanship in any form for a minimum of ten years following enrolment.

And the task before it

The programme must be totally free of violence in thoughts as well as actions. It could be based on goodwill to all and malice to none. The character of the effort, and the direction it should take on its own, will emerge, when the forum comes into existence and begins its quest. Money is of little consequence. It flows like water for a cause that is real. What is acutely in short supply today is character, competence, and commitment blended together.

The forum, to start with, must confine itself to the down and out of centuries, in the rural heartland as well as those struggling and suffering in the growing urban slums virtually minus air, water, leave alone shelter or work. The manifestation of poverty, degradation and denials mounts despite massive efforts and plans professed on behalf of the government and our wealthy "do-gooders" ! The forum for freedom must prove welcome as a voluntary organ. It must ask nothing for itself from government. It must demand honest extension of what government plan and implement. It must have the right to act as a counterweight to expose where, why and how betrayal occurs. This can be hailed as a new battle of "Kurukshetra" open to the aged and the youth. The middle rank in between may be left alone in bulk, to fend for themselves as they wish, in the current elusive age of "quick rise" in life and status.

"Arise" and "awake"

The elders, who volunteer to plunge into the new battle with their mind and heart as the only weapons, must offer "pind" themselves in their own name at the Falgu river bed alongside Gava or in the Ganga at Haridwar. The Pandas, according to experience, refuse "Pind" for those still living. The elders must reinforce and stretch their lives as long as they can, to burn themselves in and out rather than exist dumb and mute, to rust and wither away as hapless straws in the wind. The crusade will have the quiet blessing of Gandhi and Nehru. It will draw, from farther back, the "bliss" of Gautama Buddha. It will attract the spark of Shankara with the latter's clarion call of "Sho eham" (I am He) who parted with his body after his quest was over, when aged thirty. His spirit would lend the magnetic fuel to the process of transformation in our character, from shadows and mirage to reality. The call of the hour is character to outgrow the milestone of feudalism that has corroded the soul and soil of India over the ages.

When the spirit of India looked totally bleak, a hundred years back, there sprang up a lone pilgrim. He trekked alone across the land mass from Kashmir to Kanykakumari, Cutch to Naga Hills. He sailed as the unknown monk to the International Congress of religions at Chicago, minus the means, even the invitation. "Every soul is potentially divine" is the quintessence of Indian philosophy, that thundered across the continents. The never dimmed fire spread across India, even after Vivekananda closed his breath, aged 40, in deep meditation. "Arise, awake, halt not till the goal is reached" was the message that continues echoing across the horizon. The same mission fuelled Gandhi, Nehru and many a known and unkown musafir, that fought and still fight for the soul of India "to arise" and "awake". This alone can detonate the explosion to survival. This alone can ensure peace, amity and balance as primal laws in the ecology. Man alone is still unfree, while all other forms of life, co-exist in relative "freedom" with hardly any cannibalism within the individual ranks of the species. □

"Talking" bus stop

A "TALKING" BUS STOP—known as ELISE (electronic spech information equipment)—designed to help blind and partially sighted bus passengers has just been launched in Britain

The equipment, which can be fitted to an ordinary bus stop, uses a microprocessor and speech synthesis techniques to store and announce information on bus routes and times at each stop. ELSIE will also tell waiting passengers the number of an approaching bus.

The system has been developed by engineers at the U.K. Transport Department's Traffic Control and Communications Division in Bristol, Western England, at the suggestion of blind and partially sighted people. □

Fully export-oriented units exempted from custom duty

UNDER THE HUNDRED PER CENT export-oriented unit scheme, various goods including capital goods, raw materials, components, spares etc. are allowed to be imported free of customs duty provided the finished products is exported out of India. Government have decided to allow supply of products of hundred per cent units to Oil and Natural Gas Commission (ONGC) projects against global tenders.

It has also been decided by the Government to exempt from customs duty, capital goods, raw materials, components, spares etc. imported for the manufacture of products for such supplies to ONGC. □

The keynesian relevance

S. K. Ray

o mark the centenary celebrations of John Maynard Keynes **(1883-1946)** *the author here discusses the relevance of Keynesian economics which changed the course of worldwide history in the development of economics in terms of its utilitarian aspects in respect of policy and state craft. Keynes helped economics to graduate from the micro-views of particular situations to the national or international macroscope of aggregate economic forces and nationwide socio-economic flows at play. The second part of the article, to be carried in the next issue, will discuss the Keynesian relevance in the third world.*

THE INFLUENCE OF John Maynard Keynes on the economic theory and policy of today's world is stupendous. Even though Keynes started as an economist of war and peace, taking upon himself the task of delineating the economic principles of post-war reconstruction, principally as relevant to the problems of contemporary Britain, he had eventually struck oil in his treatise, *The General Theory of Employment, Interest and Money.* In his magnum opus, Keynes developed socio-economic concepts at the macro-scopic level relating to consumption, saving, spending, investment and employment, which, in this time and age, have assumed profound meaning in respect of the principles governing the economics of growth and development.

It is in this respect that the Keynesian emergence has come to assume particular relevance to the economics of the third world. It is our objective in the present dissertation, while analysing, may be for the umpteenth time, some of the cornerstones of the Keynesian economic principles, to identify their applicability and relevance to the developing economies of the third world.

The Keynesian revolution in the economic literature came up principally in the background of the British economy, in the context of the great depression of the thirties, the massive war-efforts leading to various degrees of indexing or extreme privations in consumption and forced savings in order to generate investment and, finally, to attend to the post-war requirements of the economics of reconstruction. Considered against this background it may perhaps be almost a sacrilege to suggest (which, of course, it is our intention to do), that the Keynesian concepts are of great significance to the developing economies of the third world.

Sacrilege or not

But so they are, I believe, sacrilege or not. Keynes dwelt on the problem of long-term (secular) stagnation and the Hobsonian principles of under-consumption, contested the rather over-simplified Pigovian correlation between wages and employment, rationalised the economic principles of under-employment, national spending, investment and national income; and graduating from his economic principles of propensity to consume, liquidity preference, the rates of interest and dividend, and other variables, he eventually evolved the principles on the basis of which the state could function as a programming-agent for sponsoring spending, investment, production, employment, consumption and national income. All these concepts and formulations are extremely significant to the third-world developing economies.

It is my belief, therefore, that Keynes, while attending to the problems of the pre-war depression, war-time privation and post-war reconstruction of

the British Isles, may be not so much as a conscious effort as by the progressive denouement of the forces of rational thinking, was all the while laying down the infrastructure of the economic principles that would eventually come to govern the developing economies of today's third world.

Except perhaps for David Ricardo, no other economist may possibly have had so much influence on the public economic policy within his own life-time and within a few decades thereafter. The contribution of Keynes in the substantive, theoretical and practical contents of economics has in the post-Keynesian decades been discussed as the Keynesian emergence, the Keynesian revolution or an altogether 'new' economics.

The new economics, which has developed with, upon and around the Keynesian economics, principally on the basis of and as a sequel to keynes' General Theory, is actually *the* significant Keynesian revolution of the twentieth century, à revolution which has transformed economics from an interpretation of the economic phenomena at work into also, in the bargain, a neoteric science that not only interprets but also determines, and oftentimes propels, the socio-economic forces and phenomena at work in the national economy towards the realisation of certain national objectives.

Three major shifts

In the process, keynes accomplished three major shifts in economic thinking. First, he promoted economics from a study of particular prices or values or circumstances to flows or aggregates in respect of wages, employment (or unemployment), money, consumption, investment and income. Thus Keynes helped economics to graduate from the micro-views of particular situations to the national or international macroscope of aggregate economic forces and nation-wide socio-economic flows at play.

Secondly, Keynes introduced, with considerable success, extensive pragmatism in economic theorisation. In the field of socio-economic developments, Keynes focused a flood of limelight on a catalytic agency in the shape of the state, the policies of which could make or mar the projected or programmed economic growth of a country or a cluster of them, affilitated by a common policy or management-standard or economic objective. This was principally how Keynes transformed economics into a vehicle of public policy, and thereby one of the most utilitarian sciences of today's world.

Finally, economics, beginning with the Keynesian formulations, and in its pursuit of the public-policy delineations, has eventually identified its links with politics and, therefore, economic management in today's world has clearly identifiable areas of over-run with political management.

Beginning with the Keynesian break-away from the traditional gold standard to opt for the international managed currency, to today's monetary and developmental programmes, from the Bretton Woods covenants to today's world monetary management monitored by the International Monetary Fund, the World Bank *et al.*, economics and politics, as Keynes foresaw, are at the level of the world-wide or even country-wise macro-economy, getting steadily but increasingly fused and/or intermingled with each other, over large tracts of national and international economic phenomena.

Third-world economics

More than ever before, these Keynesian shifts in the evolution of economic policy, in our opinion, are relevant today in the context of the emergence of the policy-framework on economic growth in the developing economies, more than most. What is basically wrong with most of these economies, is principally the failure in the formulation of the state-policy on econmic growth to break the barriers of micro-developments, and to promote the economy into the realm of macro-growth of optimum aggregate development.

It is also being increasingly appreciated that in the matter of economic growth, the principal activist role will of necessity be of the state. It is the state which will have to discover and determine the links between the objectives and patterns of economic growth, on the one hand, and the socio-political-economic ideology of the government and the people, on the other.

In the context of the third world, it may be worth-while to appreciate, yet once again, the emphasis in Keynesian literature on the importance of the state-craft in economics, which pursuant to his General Theory became the hand-maiden of political and administrative management. By the 'thirties and forties' and what with the booms and depressions, the value theory slowly but certainly gave way to the Keynesian concepts of costs and prices.

Money in economic dissertations took the centre of the stage, along with public finance and currency-management, and in a neoteric revival of mercantilism, economics by itself assumed an altogethe renewed importance at the hands of the state as a vehicle for evolving and adumbrating public policy. In other words, politics had thus ensconced economics on a pedestal of policy or statecraft.

While this was by and large the Keynesian significance, its relevance, according to my way of thinking, in respect of the developing economies is perhaps even greater.

The reason for such a belief is principally based on the appreciation of the hard fact of life that most of the third-world countries, working within the framework of democracy, are mostly in the midst of a secular or near-secular stagnation. Propensity to consume is high, even as the multitude lives behind the poverty divide.

The paradox is that even though the per capita income is low, there are enormous pulls against the propensity towards investments for creation of wealth, and savings have a tendency of not getting converted to investible surplus. Institutional finance gets to become all the more rigid, and the state

develops an inherent propensity to lean heavily towards deficit financing. This normally leads the economy to mounting inflationary pressures, which eats deeply into the growth of national income.

With steady accretions in population, Malthus notwithstanding, unemployment catapults. Labour unrest increases, so do wages. But contrary to the Pigovian thesis, full employment gets to become even more Utopian and actually there is an absolute, as also percentage rise, both in disguised unemployment, under-employment and unemployment.

This, it would appear, is the general picture of an under-developed, or even a developing economy. It would also appear to represent a typical Keynesian model, a la Jan Tinbergen.

To transform this model of low productivity|underemployment|low income|high inflation into another model of higher productivity|high per capita income|price stability|fuller employment|higher national income, there is, it would appear, no other way in such developing economies but to take to well-conceived and precipitate measures to accelerate saving and investment, to promote general employment and income, and to contain inflation and stabilise prices and improve the per capita income and standard of living ; all these at the behest of, and under the surveillance of the state as the programmer or the catalytic force. All these concepts are reflected in the pages of the Keynesian literature, The General Theory, and the rest.

Before I proceed further to analyse the relevance of the Keynesian concepts of economics to the third world, I may attempt a brief mention of the many-splendoured concepts themselves. It may be even better to explore this significance in respect of the individual Keynesian formulations, relating to consumption-economics, economics of saving, spending and income, economics of control, intervention and management by the state, and, finally, the statecraft for achieving the ultimate objective of full employment. While this will help us to appreciate the fundamental Keynesian ethos in public policy, it will simultaneously enable us to understand the significance of the said ethos for the developing economies.

Keynesian confrontation

Early in his formulations, even prior to The General Theory, Keynes had been gradually breaking away slowly but steadily from the shackles of the classical economics. With the panorama of his emerging thoughts fully unfurled in their splendid glory in his General Theory, and threreafter, Keynes had stood, magnificently liberated, amidst the spectrum of his fresh economic concepts, rid of the broken fetters of the doctrinaire classical schools.

He gave an altogether new meaning to mercantilism, perhaps also adopted certain basic concepts from the neo-classicals and the radicals in economic thinking, waged a simmering battle of ideation with some of his contemporaries like Marshall and Pigou (the Keynesian-Pigovian confrontation particularly in respect of wages and employment itself assuming rather classical proportions). Finally, resplendent and Rembrandtesque, Keynes went about unfolding the neoteric theories and concepts (later called the new economics), concerning the national economic phenomena and management, on employment, interest and money, in his magnum opus and subsequent writings, deliberations and researches.

An analysis of what may be discussed as the Keynesian confrontation should be in order, not only from the outlook of an archivist, but also in exploring the why's and how's of the Keynesian adumbrations, as relevant to booms and depressions, prosperity and stagnation, war and peace.

Keynes differed with a number of conclusions of the classical economists, in which private enterprise was the king and the price-system functioning on the value mechanism and the principles of real costs provided the rule of law. His confrontation with the classicists, however, was rather wider as compared to that with the contemporaneous economic theorists.

That Keynes provided the basic fundamentals for the charismatic development of the economic philosophy of some of the later radicals like Lerner, Joan Robinson and Klein was, according to many, no mere accident. It is believed that while the Keynesian concept itself had drawn from the philosophy of some of the earlier radicals like Gessel, there was also perhaps some basic identity of mind with the earlier recognised critics of the classicists like Lauderdale and Proudhon, and may be, one would think, even Hobson and Marx.

In my opinion, however, these views expressed by some post-Keynesian economists, even though partially correct, have been in the nature of emphasising the obvious. For, Keynes was himself a rebel and a radical in economics and dominated the international spectrum of economic literature over the century with astonishing freshness, aplomb and finesse and, therefore, any effort in attempting at discovering areas or points of similarities with earlier economists is rather in the nature of hairsplitting and may prove to be of limited usefulness.

Adam Smith, a doyen in economics before Proudhon, had considered what are known as mercantilism and physiocracy as rather out-of-tune with modern times. Keynes talked at length on mercantilism in his General Theory, and as it appears to me, was perhaps also inclined to champion the more or less mercantilist view that the state ought to provide the inducements to invest, by means of low interest rates and rational wages, and a favourable balance of trade, with devaluation and tariffs as may be necessary.

It may be concluded, as Keynes did in the General Theory : As a contribution to statecraft, which is concerned with the economic system as a whole and which is securing the optimum employment of the system's entire resources, the methods of the early pioneers of economic thinking in the sixteenth and

seventeenth centuries may have attained fragments of practical wisdom which the unrealistic abstraction of Ricardo first forgot and then obliterated.

No wonder that Frederich Rist had discovered certain physiocratic similarities in the Keynesian thoughts like the national aggregates of saving, spending, investment, and income, the circularity of national flows etc., because such similarities did in fact exist, and were developed as economic concepts of highly significant connotation. Incidentally, while these similarities are rather apparent to us today, it could not have been exactly so obvious at the time the Keynesian concepts were being unfurled for the first time.

As regards the opinion of some economists that there were some vital and important points of identity between the Keynesian concepts and the thoughts of socialism and (even) Marxism, there is nothing much to be surprised.

As I said, Keynes in my opinion was himself a radical, perhaps like Prometheus. He had discovered the flaws in capitalism, and how, if not properly checkmated by the state, economic growth would give way to economic stagnation in regular periodicity and how, if the strategies of the state, in matters relating to consumption, money, saving, spending, investment, employment, production and income, at the national aggregate levels, were not pragmatic as well as effective, the run of such stagnation would tend to be secular.

This, therefore, would lead the economy to the dreaded rut of low-key equilibrium which may often times be structural or fundamental in character. And the stagnant equipoise of fundamental disequilibrium is rather unique and commonplace to underdeveloped or low-development economies, where barriers to economic growth are generally rigid and multiple. No wonder that, therefore, I should legitimately find myself reaching the conclusion that the Keynesian economics should eventutally lead to an outline of the economics of the third world.

To come back to the subject at issue, however, the Keynesian battle was the bitterest with his contemporaries, Pigou more than most.

First, he had joined issue with Marshall, his own mentor, particularly in regard to the Marshallian assumptions and oversimplifications, inter alia, that all income is spent, that the aggregate of savings equals investment Keynes also contested Marshall's view as to how actually interest was determined and acted to equalise savings with investment.

At this stage Keynes entered into a battle royal with Pigou, particularly in relation to the Pigovian mathematical formulations and presumptions on theories of employment and wages. Knight had lent Pigou a reluctant hand.

The Pigovian-Keynesian confrontation, is of considerable interest in the context of the economics of the third world. It would be adequate to briefly mention here that Keynes considered Pigou's theory of employment as a non-causative investigation into the fuctional relationships between the economi phenomena of wages and employment. Keynes ha felt that Pigou had come to certain pre-conceive conclusions regarding wages and employment, an more or less developed a theory to the orientatio of the said conclusions, on the strength of a numbe of assumptions, many of them not validated b didactic analysis, window-dressing his theory wit presumptory mathematical models and formuli These assumptions being unrealistic and mathematisation presumptory, Pigou's theory, according t Keynes, bristled with inconsistencies and could no be used for formulation of state policies.

Amongst his contemporaries, Keynes had acknowledged his debt, by way of 'constant advice and constructive criticism', and also by way of conceptual fundamentalism, to Robertson and Kahn, as well as Joan Robinson, Hawtrey and Harrod, even though Harrod at a later stage had (I find) dissociated himself from many Keynesian formulations.

Some economists felt that Keynes had a debt to Wicksell, Gesell and Walrus, and the school of thought they represented. In this view, the reference is apparently to Gessel's endeavours, in a rather anti-classical stance, to formulate a theory of general equilibrium stated in monetary coefficients, as also Wicksell's opinion that consumption and income acted and reacted with each other, and to the fact that Keynes apparently was quite at home with these views, and in his General Theory developed them to their fullest potentials.

In my view, this was rather far-fetched. Economics, like any other science, would have some kind of evolutionary process. In view of that, it is rather futile and exaggerated to trace every bit of Keynesian concept to some embryonic similarity with the tentative odd view of an earlier economist. It is more or less akin to a thesis that the greater range of Shakespearean plays were based on the stories and fables in Chaucer's Canterbury Tales Anyway, the controversy is in nature like wool gathering and is not relevant to my thesis.

Whatever that may be, I am drawn inexorably to one conclusion. While discussing heretofore Keynes' own reaction to his predecessors and contemporaries, and the conceptual controversy between Keynes and some of his compatriots, I am time and again drawn to the inevitable validity of most of the Keynesian propositions in the context of the economic problems, and the conceptual controversy between Keynes and the third world. Such a discourse at this stage, therfore, would be fully in order. (To be concluded)

TOWARDS SOCIAL REVOLUTION
a Case for Economic Democracy -
VASANT SATHE

A Serialisation 1

Some aspects of the Indian economy

Planning : Sectoral analysis agriculture

IN AGRICULTURE THE CONCEPT of individual ownership of land has prevailed over centuries. It has indeed got so deeply embedded that a man's attachment to, and feeling for, the land have to be recognised even while planning for his own betterment.

Land belonged under various traditional feudal systems to individuals or families and all those who worked on it were either share-croppers or labourers. The owners were mostly absentee landlords who did not pay any direct attention to the production of crops on their lands.

Science and technology made rapid strides in the sphere of industrial production, but their impact on farming was limited and slow. In the developed industrial countries, this brought about a shift of the working forces from agriculture to industries and even then agriculture had to be adapted to new technological conditions such as mechanised farming.

In countries such as India, the population has grown at such a vast pace, particularly of the poorer sections mostly living in the rural areas, that in keeping with the Malthusian theory, although it provided the working force to the industries in the urban areas, this did not bring about any shifting of the work force and the pressure on the cultivable land, which for thousands of years was more or less constant, continued to grow. The picture was that, on the one hand, there were the feudal landlords holding thousands of acres of land and, on the other, smaller landholders whose lands were being fragmented among the growing numbers of their families, generation after generation. Thus most of the members were constantly becoming agricultural labourers because there was no land to hold on to and no industries to which they could shift.

The main struggle in the field of agriculture has, therefore, been to obtain a fair distribution of land so that the maximum number of people could have a viable unit to work on. This resulted in the introduction of legislative measures, such as the abolition of feudal landlordism called zamindari and, progressively, in the introduction of land ceiling laws, reducing the holdings to certain fixed ceilings and in distributing the surplus land to those who were working on them as share-croppers or labourers or ultimately to the landless labourers. Even this process has been comparatively slow and has not yet been fully accomplished. Yet, largely due to the tradition of bringing about a transformation through a non-violent change and because of efforts in this direction brought about by spiritual leaders such as Vinoba Bhave, this distribution has taken place without causing any organised violence or bloodshed.

Historically, the caste system in India having evolved round vocations, land holdings belonged mostly to the feudal classes and castes. The landless labourers or small landholders belonged mostly to what were known as the lower castes. Hence, although the reorganisation and the redistribution of lands have taken place more or less in a smooth and peaceful manner, there have been overtones of a political character between those communities which have, under the land laws, been deprived of their lands and those to whom these have been given. But in spite of this redistribution, a much larger population still remains landless and cannot be given any land.

This surplus population has, therefore, to be absorbed only in activities producing other goods, either of an agro-industrial character or capable of meeting other consumer needs. The best policy would be to

provide them this productive activity in the rural sector itself, lest they be forced to push themselves towards the urban pockets without getting any succour there and ultimately landing themselves either in the slums or on the footpaths.

Thus, the picture in the rural areas is that of land holdings which have been comparatively cut to size, where the landlords and the peasants are putting in their best. They are using modern facilities and methods, and, subject to a favourable monsoon in the absence of irrigation facilities, if given remunerative prices for their produce and the inputs required, have proved that they can produce enough foodgrains, cereals, pulses and other crops to meet at least the basic requirements of the country.

But the harsh reality also is that most of the regions of the country are still victims of the vagaries of the monsoon and that the percentage of irrigated land has not increased substantially. Although we have large rivers, the major portion of their water flows into the sea. We have also not been able to control the cost of inputs such as fertilisers, pesticides, improved quality seeds and power. Nor have we been able to create any system of parity between the prices for the agircultural produce and those for the industrial produce, even in areas where industrial products are based on agricultural raw material, such as sugar, cotton and edible oils. This has resulted in a disparity in the incomes and income distribution between the people working in the agricultural sector and those working in the industrial sector. Geographically also, income gets divided unequally between those living in the rural areas and those living in the urban areas.

Hence, in the agricultural sphere, the problem is twofold. Agriculture itself needs to be treated as an industry to which all the parameters of industrial production should be applied. Of the total land available for cultivation in India, which is approximately 165 million ha, the irrigated land accounts for only 40.50 million ha, i.e., about one-fourth of 25 per cent, although it must be remembered that this has nearly doubled in the last 30 years. And yet, the volume of river water which goes to the sea is 1210 million acre ft. whereas the volume of water harnessed for agriculture is hardly 230 million acre ft. which works out to only 20 per cent.

It is well known that the major factors contributing to the growth in agricultural produce are irrigation and the availability of water, when it is most required. The fact that the percentage of irrigated land from 1951 to 1979 almost doubled has a lot to do with the doubling of the foodgrain production as well. Hence, the most important tasks are to harness the river waters and to provide irrigation facilities to the remaining cultivable land which today depends entirely on the vagaries of the monsoon.

The next contributing factor is the use of fertilisers as nutrients for the growth of agricultural production. However, it must be remembered that for lands which have been under the plough for thousands of years, the use of fertilisers must ensure a proper balance between the organic and the inorganic factors so that the natural fertility and the renewable capacity of land are maintained. Similarly, the use of pestic and weedicides must also be in a manner that not affect the ecological or environmental chara of natural growth. Having said this, the fact rem that, as in the field of medicine, so also in the of agriculture, we can use synthetic nutrients chemicals to help bring about a healthier growth, only of the land but also of the crops.

The use of fertilisers in India, or for that matt other developing countries, has been much lowe a per unit dosage than in developed countries. comparison purposes, if we take another develo country placed under a similar situation, suc China, it will be noticed that although the quanti irrigated land in China is slightly more than of India, that is, 46 million hectares as against 4 million ha in India, the consumption of fertilise China in 1980-81 has been approximately thrice of India in the field of nitrogenous fertilisers nearly twice in the field of phosphatic fertiliser Table 1 shows. Then, if we consider the fact China has achieved a food production of app mately 300 million tonnes compared with the re achieved in India of about 132 million tonnes, we easily appreciate the necessity for the use, bot modern methods in terms of inputs such as fertili as well as of other intensive methods of cultivati

Table 1 Comparison of agricultural fa between India and China

Item	India	Cł
Land (million ha)		
1. Total arable land	164.93 (1978-79)	(1
2. Net irrigated land in 1950-51 . .	20.85	('
3. Net irrigated land in 1979-80 . .	40 50	(in 1
Consumption of fertilisers (million metric tonnes)		
1. Nitrogenous (N_2)	3 7	
2. Phosphatic (P_2O_5)	1.2	
3. Potash (K)	0 6	
Food production (million metric tonnes)	132.0	3

Source : Fertiliser Statistics 1981, Fertiliser Asso tion of India, New Delhi.

In the field of fertilisers, which is an impo agricultural input, India can justifiably take prid the fact that the capacity of the indigenous pro tion has grown substantially during the last 30 y Whereas in nitrogenous fertilisers, the produ capacity increased nearly 200 times from a 16,000 tonnes in 1951 to 3,144,000 tonnes 1981-82, in the field of phosphatic fertilisers, i creased by about 85 times, that is, from a mere 11 tonnes in 1951 to 950,000 tonnes in 1981-82. production of fertilisers is expected to go up subs tially when the new gas-based fertiliser plants wi set up a few years hence and when the plants alr under construction are commissioned. Even if existing plants are worked to their full capacity, itself would increase the availability of fertilisers stantially.

But the major factor through which the productivity of land can be increased, namely, river waters, still remains to be fully harnessed. Annually, India suffers a heavy loss in a twofold manner : either there are floods in some areas due to a heavy and erratic monsoon which destroy arable lands and cause other damage, or, there is drought due to a shortfall in or a paucity of the monsoon, which causes havoc in the form of famine, resulting in the decimation of cattle and other damage. Sometimes both these calamities strike at the same time in different regions. Both could be substantially prevented and reduced if only we could harness our river waters. Engineers and scientists have been thinking for years of linking the various rivers which are spread out all over the country and which practically flow across the country, spanning its width. If a method of linking these rivers by canals were to be developed, we could have a chain of linkage that could not only help irrigate the rest of the arable land, but, in the process, also ensure the prevention of floods and droughts, besides providing the facility for the generation of hydel power and for inland navigation. It is true that this would involve a gigantic effort and would require heavy investment, but we can harness modern technology and the huge manpower resources by motivating the people in a movement or a campaign. The efforts on the scale and intensity of Bhagirath (who brought the Ganga down from heaven) could change the entire economic scene and India would be in a position to produce enough food to sustain the likely growth of population which may reach the 1000-million mark by the turn of the century, that is, in less than 17 years from now.

Sometimes, one feels that nationally relevant projects such as the national river grid and the linking of rivers, in which millions of our youth could be involved, could play a great motivational role in the emotional integration of our people. Where there is a will, there is a way, and if there is a strong will, human beings can achieve the seemingly impossible. But if, in the name of pragmatism and realism, we leave all activities to bureaucratic procedures, then naturally everything has to be done by bureaucratic norms, in which costs are calculated on the basis of the routine, where more than 50 per cent is spent on the overheads and, thus, ultimately it is shown that the costs are so great that the entire project is impracticable.

It is these so-called practical people who have virtually brought about all-round stagnation, especially in respect of economic growth. They have developed vested interests, both in politics and in administration. They have brought about an imbalanced growth in the form of unaccounted black money (possessed by a very small section) and are responsible for the overall corruption of the entire political and socio-economic fibre. And surprisingly, these people get away by blaming the politicians, who themselves have succumbed to the stagnating influence and the status quo mentality of the vested interests.

If Gandhiji could achieve the impossible of rallying the unarmed poverty-stricken people of the whole country against a mighty imperial power in order to secure political freedom, the same can be done to achieve economic freedom from poverty as well. But this has to be done by the people as a whole. True, it needs a leader, and India has been fortunate in having leaders of a national and even international stature, earlier in Jawaharlal Nehru and now in Indira Gandhi. But what is lacking is the will and the confidence, mainly in the intelligentsia.

Mrs. Gandhi carries on her shoulders the Himalayan burden of the aspirations of the people for rapid and equitable growth of the nation.

The Agro-Industries

As a major portion of our population—about 75 per cent—lives in rural areas and is largely dependent on agriculture or allied occupations for a livelihood, it is essential to ascertain how we can best employ this human power in its own locale for productive purposes, which would simultaneously provide remunerative work to the unemployed or semi-employed people and also produce goods and services which the people need in order to improve their living conditions. If this twofold objective is to be achieved, then employment would have to be provided to the people without necessitating large-scale migration or transfer of population.

As we have seen earlier, the most elementary need in life is food. In terms of calories, the total foodgrain production nearly meets the elementary needs of the people and it is only in the maldistribution on account of the imbalance in the purchasing power, which, as, we have seen earlier, is not available to more than 50 per cent of our population even in terms of basic needs, that the real problem lies. Next come items such as clothing, housing and household requirements, for example, utensils, basic furniture, cattle for milk, poultry, vegetables, edible oils and fuel. Now, it is common knowledge that traditionally these items were produced in the rural areas themselves and the entire population in these areas was mostly divided according to vocations (which people carried on from generation to generation and which enabled them to develop specialisation and expertise). It is these vocations which fulfil the needs of the entire society. For example, the handloom weavers produced cloth as a family vocation. Similarly, there were people engaged in vocations such as carpentry, smithy, pottery and tanning.

But the fact remains that the goods required were mostly produced in the rural areas themselves. During the feudal period, the cities were mostly located round the capitals of the kings in the form of trading centres, but with the introduction of industrialisation, the metropolitan regions became population concentration areas where industries took over the work of producing goods on a much larger scale mechanically, thereby depriving the practitioners of traditional vocations of their work. Those who controlled the industries had the advantages of getting cheap labour, of producing on a large scale and of undercutting the traditional producers in the rural areas through aggressive

marketing. Thus, they succeeded in practically annihilating the traditional vocations. Since these neo-industries were controlled by a few, the surplus generated remained in the hands of the few, and, in place of the feudal lords, the new capitalist lords emerged.

It is necessary, therefore, to consider how we can retrieve the situation whereby a human being becomes the centre of productive activity and is provided with work, even if that means giving him protection and preferential treatment. Talking of protection, do not the big industrialists themselves want protection from outsiders and have they not been given that in the name of the growth of indigenous production ? In other words, if you are an indigenous capitalist, the state must give you protection from outsiders; it must also ensure that you have the right to exploit your own people by perpetuating an industrial structure or a system which will make it impossible for a majority of human beings throughout the country to have any vocation, forcing them into abysmal poverty.

It is, therefore, felt that certain areas which deal with the basic necessities of life should be demarcated entirely for production on a self-employed basis by the people living in the rural areas. All that should be done by the state is to provide marketing facilities for the goods produced in the self-employed decentralised sector.

The national marketing organisation that we shall describe in Chapter 5 would be responsible for the creation of a mechanism for ensuring the supply of raw materials, for facilitating training in different fields and for marketing the goods produced by the self-employed producers, for example, items such as clothing, edible oils, detergents, matchboxes, bidis, utensils, small tools and equipment, vegetables, eggs, poultry, piggery, footwear, umbrellas, silk cloth (and even cloth made out of synthetic fibre), ancillaries for electronic and other equipment, fruits and vegetables (preservation and canning), pickles and papads, plastic toys and vessels—in short, all goods that can be produced in a cottage industry. At present, there are two factors hindering production. These are : the non-availability of raw materials at a reasonable cost and the lack of marketing facilities for the goods produced.

Once these prerequisites have been taken care of by the national marketing organisation, there is no reason why productive activity cannot spread throughout the country, at least, in the sphere of the necessities of life. Industries in the urban centres should only be those which go in for the production of goods which essentially require an economy of scale (both for quantity and quality) and a certain amount of sophistication or which produce mostly items of comfort and luxury, or those required in areas of selective consumption such as defence and transportation. Even here, there is substantial scope for ancillarisation, which would provide decentralised employment. In short, the emphasis must be on use of the productive power of the least work-worthy individual. Let him produce goods, even if at the initial stage they may not have the same quality as that of the goods manufactured by automated production For example, if a detergent were to be produced by a self-employed young man in a village, the product may not be of the same quality as that produced by a large-scale detergent producer, but it could still have all the properties of a detergent. Hence, if we decide deliberately to market the product in a decentralised manner, such a step itself would gradually help the producer to improve the quality.

Let us next consider the vast area of traditional crafts, which, fortunately, have managed to survive despite several setbacks. These crafts have their own rich cultural and artistic value. Wood carvings, stone sculptures, hand-made carpets, delicately knit and woven fabrics—practically all the products of our craftsmen not only possess aesthetic beauty but also carry an artistic personal touch so that they become highly valuable items in an age where most things are machine-made and are of standard patterns. Hence, we should encourage these traditional crafts, and it is a matter of gratification that greater attention is being paid to this aspect in India today. It is also known that the products made by our craftsmen have established a good market in the international field, particularly in the automated, machine-sick, affluent Western countries.

Thus, production, in both the organised and unorganised sectors of the country, would be harmoniously coordinated by the very structure of the organisation, namely, the national marketing organisation, through its wholesale and retail outlets which would take care of the marketing aspect while the productive sector (both in the organised and the unorganised fields) would take care of the productive aspect. This structure would be free from exploitation. This would produce a genuine surplus and because the entire productive force of the country would have been provided the capacity to produce goods and services, the growth of the national product would be much greater than that at present, when productive work is available hardly to a small percentage of the population.

In the agro-industrial sector, one very important institutional organisation that could be created is the agro-service centre which should be located at every block level and which should provide servicing facilities for the maintenance and repair of all mechanical and electrical equipment in that area such as pumps, agricultural implements (tractors, threshers), oil expellers and electrical and electronic equipment (radios, television sets). Agro-service centres should also provide inputs such as fertilisers, pesticides and seeds according to the requirements of the farmers in that area. Further, these centres should provide other inputs required by the self-employed producers.

The agro-service centres can also be enlarged into local marketing centres, coordinating with other agencies. A network of these service centres would itself provide employment to many technically qualified educated young men. Thus, when productive activity shall be carried out by the entire population, there would be no dearth of opportunities for young people, and it is this factor that will remove their feeling of frustration.

It is the aforementioned vocations and jobs that can provide work to the labour force, which is day by day becoming surplus on the land. Because of the introduction of mechanisation even in the field of agriculture, the number of unemployed and semi-employed labourers is increasing. Once they are gainfully employed in the vocations of the type mentioned earlier, helping them to acquire purchasing power, the burden on land would be reduced, enabling more modern and better cultivation techniques to be employed, which, in turn, would help greater good production. In fact, when the availability of vocations and purchasing power increases simultaneously with the availability of essential commodities such as food products, a circular effect is engendered which brings about an all round growth. It is only when the distribution of income is totally distorted, as it is today, that a situation arises where a couple of million tonnes of extra sugar produced appear to be an unmanageable surplus because it has virtually no demand in the international market, where, ultimately the sugar has to be sold at a lower price. Surprisingly, the policy-makers are willing to sell the surplus sugar at a lower price in the international market rather than make it available in the domestic market for fear that this would bring down the price and thus affect profits. The distortion in the law of demand and supply, which does not seem to have any co-relation to the necessity, is most glaringly brought out by this example.

Rural Programmes

While a great deal of money is being spent in the great beneficiary-oriented programmes of rural development and welfare, such as IRDP, NREP, TDP and the various minimum needs programmes which are all included in the 20-Point Programme, it is astonishing that these programmes have not been linked with agricultural productivity on the one side and the already existing technical base of the village society on the other. In some of these programmes like the IRDP—the largest of them all—the poorest of the poor families are sought to be identified, locally sustainable economic activities are also sought to be selected, and then the families or individuals are placed in these activities with a subsidy for the acquiring of capital equipment relevant to the activities. It is noticed, however, that the activities are often imposed on the families and are not the ones which these families already know as experts. That is to say, planning in the country has never adequately taken care of the great expertise of village folk on lines which have sustained the village societies for centuries. The village tanner, the cobbler, the smithy, the goldsmith, the potter, the carpenter, the metal worker, the weaver, the artisan, the dai and the vaid, etc., have been nearly totally neglected. No technical upgradation of skills, no training, no subsidy, no tools, no electrical power, etc., have been provided to these skilled artisans, even though their products are often found to be in demand in cities and towns, in sophisticated society and even in export business. The present-day programmes of rural development are actually pulling out people from the activities they know and often putting them into lines they do not know so well. It is therefore necessary that the programmes correct their approach and begin to provide technical assistance to rural experts and subsidy for capital equipment in order to put these functionaries on their feet and under the range and improve the productivity of rural workers.

It is also necessary that the workers provided with work under the NREP, in such moderately productive or unproductive activities like building the village community centre, sarpanch's office, etc., are given work in such agriculture-linked and highly productive work as desilting of tanks, construction of field channels, sinking of wells, levelling, bunding and draining of fields and fencing of farms. This will raise productivity per man and per unit of expenditure and bring about a better and more sustained generation of income.

Today, in theory, although we want greater production, in practice, because of the paucity of real demand, greater production itself becomes a crime. For instance, the moment more sugarcane is produced, the farmers are told that they must produce less, because all the sugar produced by them cannot be sold! The same would happen to foodgrains and practically to every other commodity because the market is limited and not co-related to the needs of the people.

But the situation would undergo a sea-change when goods are produced by all the work-worthy people throughout the country, when adequate purchasing power becomes available to them and when the whole population becomes the real market, the producers in every field would be benefited. The growth, of the GNP would be much greater; the surplus available could be used in priority areas such as research development in science and technology. Also, we would be in a position to acquire advanced technology from outside and improve upon it. The huge labour power, instead of being a liability as it is today, would become an asset in the production of goods and services not only to meet the requirements of our own people but also to supply them at much lower costs, first to the sister developing countries and then also to the markets of the developed world. Another factor to be considered is that the total economic growth of the large population in countries such as India would open up a huge market in itself for the goods produced in the developed countries. This is because, whether within a country or throughout the world, it is to the mutual advantage of all concerned to have goods produced most economically keeping in view the availability of raw materials. For example, it is cheaper to manufacture wood products such as paper, furniture and ships in countries or areas where wood is available in plenty than to transport that wood to other countries to manufacture the end-products there. The same rationale is true for practically all other commodities. This is how international economics must operate in the present world of shrinking dimensions. All transactions can be conducted to mutual advantage, provided no one section claims the right to exploit fellow human beings and wants to justify that right by the use of force

through modern armaments. This is what, in essence, the whole struggle for power and the crisis created by the arms race boils down to.

We shall discuss a pattern (or a model) having the in-built capacity to utilise the main productive elements in economic activity on an equal basis which would operate in a manner wherein the structure itself would ensure that (1) there is no exploitation of one section of society by another, (2) it provides the maximum incentive and scope for individual initiative in the fields of both production and distribution, (3) there should be minimum constraints in the national economic set-up and the whole system should be operated in a manner that assures a fair return to every section with an overall increase in the production and thereby the surplus. This is, therefore, the concept of economic democracy which can be relevant not only to India but also to other countries all over the world. The structure suggested here would achieve the objective envisaged in the cumulative effect of circular causation by generating an in-built process, guided by the state, towards a balanced economic growth, not only of the people but also of the regions. This would also undo the existing structure, wherein only the centre grows at the cost of the periphery.

Education and the Development of Society

Education, which must include training in the use of modern technology, can contribute materially to the balanced and speedier economic growth of the people of the less developed countries.

One of the distortions that has occurred in India in the field of formal education is that in making the people literate and in inculcating among them knowledge of the subjects falling under the category of humanities, a huge army of semi-educated persons has been created. These persons have been uprooted from their traditional vocation and skills and have not been provided with any modern technical skills. Consequently, they become generalists of the last order. They are aware of the social change around them and also of the inadequacy of the political structure or system to deliver the goods. They would like to attain higher living standards, but cannot do so; they invariably become frustrated and angry young persons.

The situation is almost the same in the case of highly specialised young persons, especially in the fields of science and engineering, because the present productive activity is limited to a very restricted market, where goods are produced more or less automatically through large-scale mechanisation and the number of technically qualified persons required is reduced.

The only solution, therefore, is to bring about a wider horizontal growth in the development of the entire population.

If care is taken to ensure a balanced interaction among the productive forces by giving them equal participative powers, the fear that all the three sectors, namely, the entrepreneur, the labour and the capital, would combine and conspire to usurp a major portion of the surplus generated may no[t] actually exist. This is where the state, operatin[g] through the financing institutions and also being th[e] sole custodian of the net surplus, comes in. Th[e] state, by using the surplus to bring about a balance[d] growth (by providing more employment and jo[b] opportunities to the unemployed people in the rur[al] areas and underdeveloped regions) and also b[y] encouraging the organisation of the market force[s] can prevent usurpation by a few of the nation[al] surplus generated.

In a society, once the basis needs and comfor[ts] have been assured, the sense of acquisition is mot[i]vated mainly by status criteria and a desire t[o] compete with one another to earn more wealth an[d] to flaunt it. Moreover, money power is sought becaus[e] it provides political power. If these possibilities ar[e] removed by the economic system or structure itsel[f] thereby not allowing a few to get away with th[e] accumulation of the surplus, the three elements o[f] competition for status, i.e., jealousy, money pow[er] and political power, can be eliminated.

Under the proposed system, the productive forc[es] and the financing institutions, as well as the stat[e] would take adequate care to provide healthy compet[i]tion by ensuring adequate opportunities for a[ll] persons to acquire excellence in the areas of the[ir] choice. As there would be no monopolies, the[re] would be greater freedom of competition betwee[n] people. No one would then mind if in a race be[t]ween equals, the best person wins; the other alwa[ys] having a chance to exert and train themselves to d[o] better in future.

Thus, under the system of economic democrac[y] education not only has to mean formal educatio[n] but must also include vocational or technical trainin[g]. This would ensure that a person is sufficiently quali[fied] to contribute in terms of either producing good[s] or rendering services. Thus, ultimately, educatio[n] must enhance a person's capacity to acquire a high[er] purchasing power. After all, in the ultimate analysi[s] capital is only the accumulated purchasing powe[r] and price is only the token of value that is adde[d] to the goods or services at which those goods o[r] services could be bought or, in short, would be i[n] demand.

Thus, the primary task of education is to hel[p] every citizen—and particularly the new generation— to acquire knowledge and skills which would enabl[e] him or her to be a productive and creative membe[r] of society. Once this task has been accomplished education must provide an individual access t[o] avenues of further information and knowledge tha[t] would open out new horizons of scientific inquir[y] which would enable him not only to know mor[e] about the universe and the environment but also t[o] look within himself and develop his mental facultie[s] so as to evolve a greater degree of equilibrium an[d] equanimity, a wider perspective and an overal[l] capacity to acquire harmony. The human brain ha[s] tremendous possibilities of further evolution an[d] such evolution is possible when man develops con[fi]dence and determination to help the brain in thi[s] process by constant scientific pursuit based o[n]

inquiry and by a refusal to accept anything known as final.

In countries such as India, the common man in the rural areas has been brought up in the tradition of vocational crafts and skills acquired through generations along with a general education provided by saints and savants through the methods of recitation and learning by heart. Their teachings were conveyed through simple but entertaining audio-visual forms such as stories, dances and dramas, music and folklore, and the common people of India cannot, by any basic standards, be considered uneducated. Even though many of them may be unlettered, they not only have high ethical values but they also retain exceptional inherent artistic skills and possess a robust common sense. These people have time and again proved that they are capable of absorbing even the latest technology not only in the industrial field but also in the agricultural field.

In the political sphere, the performance of the people in terms of democracy has indeed been praiseworthy. It is not they who have failed the politicians or the political parties ; if at all, it has been the other way round. In most elections, they have wholeheartedly and unhesitatingly given a clear-cut mandate by voting to power a particular party. They have seldom behaved half-heartedly. It is invariably the politicians who have failed to bring about changes and to take measures that would really improve the living conditions of the people and, in the true sense, deliver the goods. Politicians have failed because they have not been able to contain the vested interests and also because the so-called educated and learned among them have succumbed to the more convenient classical economic theories, mostly acquired from the capitalistic Western countries. Imitative capitalism has always proved tempting, and in societies where the common man has been traditionally duped by religious superstition and fatalism, the model of exploitative capitalism became a very convenient and handy tool. On the other hand, in some developing countries, the political pressure brought about by democratic urges has kept on growing, and when democratic solutions to the problems raised by these urges in the economic field did not appear possible because they were likely to hurt the vested interests, the political authority consisting of democratic forces and parties became weak and ineffective and invariably succumbed to the only remaining source of power viz., the military.

Military dictatorships are known to have the capacity to rule and control countries which are more or less homogenous. But in cases where there is greater inherent divergence, military rule has invariably led to disintegration. By their nature, military regimes are not capable of providing economic solutions to problems, and, as a result, there are constant attempts to overthrow them both internally in the form of coups and also externally in the form of popular uprisings.

Hence, we cannot blame the people for the prevailing situation by merely stating that they are not properly educated. This is only a lame excuse advanced by those people, who in spite of receiving the best education, have failed to provide solutions to the problems of the less fortunate fellow-members of society.

The main task of the organisers, the planners and the politicians as representatives of the people is to create conditions conducive to the formation of a socio-economic structure which would ensure freedom to the individuals to develop their prospects to the best of their abilities in various spheres of life according to their interests. Having created these conditions, the duty of the representatives of the people or the government is only to ensure that the rules of the game are properly followed and that no one plays foul. Thus, the government would serve as both coach and umpire. This would be true in all areas of human activity, especially socio-economic and political.

In other words, it is the duty of the state to ensure that the whole body politic develops a capacity for natural growth, the state like a physician coming in to assist the natural metabolism only when corrective measures are required.

With all the imbalance and distortion in our socio-economic life, the fact remains that there is more good in our society than evil. Because of our tradition based on a broad-minded humanatarian philosophy, which has been imbibed by our people through sages, saints and savants over thousands of years, an average person in India is noble-minded, compassionate, sociable, kind-hearted, helpful and hospitable with a catholicity of mind.

We come across such persons in our day-to-day life. By taking stock of one's life, one finds that one has had more good experiences with one's fellow human beings than bad. However, as a part of human nature, the prick of a thorn or a foreign matter in the eye or a toothache draws the entire attention of the mind even if the rest of the body is in good condition. The same is true of our social anatomy. It is the small ailments which attract the attention of the social mind represented by the media, for example, the Press, which immediately give vent to the pain by magnifying them beyond their true dimensions.

We can also see that a major source of sorrow or suffering is due to material want. The stories in our novels, books and films are replete with events wherein poverty leads to suffering due to a lack of basic necessities such as food, medicine, clothing and shelter. Simultaneously arise social problems such as exploitation, suppression, enslavement and harassment, which take on social overtones of group conflicts based on caste, community and religion. In this context, it should be noted that unemployment is one important aspect of poverty.

But even when basic needs are fulfilled, the next category of sorrow stems from competition in the social field, and, again, lack of sufficient opportunities for all. This is particularly manifest among the younger generation, which, although educated, has

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Mechanism for forest planning

R. D. Jakati

A rational forestry planning at national and state level is urgently needed for better conservation of fast depleting forest resources. The data required for such plans should be collected and presented in utilisable form by Forest Survey of India by carrying out periodic nationwide forest resource inventory. To be meaningful, the working plans of forest management need to be cast in the light of priorities of national and state level plans.

THE REMOVAL OF POVERTY and attainment of self sufficiency have been and would continue to be for quite sometime the prime objectives of the long term planning at the national level. In order that these objectives are achieved in the shortest possible time with socio-economic and financial constraints the need for rational planning in all the sectors of economy need not be over emphasized.

The planning in the forestry sector has so far been ad hoc. The long gestation period and the intangible nature of the services have been eclipsing the importance of this sector till yesterday. And now when the importance of the sector is being realised, it is handicapped by the serious lack of scientifically collected reliable statistical data.

Shortcomings of working plans

Today the forests are managed and the planning, in whatever shape it is, is being done at the local levels. A document called Working Plan is prepared for the management of the forests so that a sustained yield of goods and services without deterioration of the forest is available.

However, the working plan suffers from some of the shortcomings which were not very apparent as they were not relevant in the earlier time. Firstly, it deals with management of forest in a particular tract, normally a forest division, in isolation of national needs. Secondly, the increment studies are done in respect of only the economically important species. Today practically every species has attained much importance because of the general wood shortage. These so-called miscellaneous species constitute a major portion of our stock. Thirdly, the yield regulation in many areas is done by area without much studies on growing stock over unit area. Fourthly, though the main objectives is to attain a normal growing stock and to obtain progressively increasing sustained yield specific prescriptions as to how to do it are very rarely embodied in the working plan. Fifthly, the potential productivity of the area is neither worked out nor even indicated. Sixthly, the quantitative assessment of minor forest produce in the tract is seldom done. The availability of medicinal plants, plants giving essential oils and other forest produce, excepting the very important ones in this category like bamboo and tendu patta, are rarely indicated.

Why forest planning ?

What we need is a strategic plan at national level based on reliable statistics, broken down to the state level tactical plans, which could be further divided into division or local level plans. The commitment to planning on a long term basis is commitment to data collection and, hence, importance of the role of Forest Survey of India in forest planning process in the country.

Many a time the necessity of national picture of forest resources is questioned by very senior officers both in administration and forestry sector If we do not need any planning at national level, should we keep on importing pulp and paper despite the fact that a vast area of our country is under forests ? Thus, anyone questioning the need for a national

picture of forestry resources questions the basic necessity of planning at the national level.

Under the changed conditions of the days and improved conditions of communications, the whole country behaves as one unit and concept of local level planning in isolation of national level or the regional level planning tends to be wrong. Therefore, the management of forest in isolation of national level objectives or without consideration of national framework of objectives is like putting a cart before a horse. The shortcomings in the national level planning in the forestry sector have been studied in great depth by J. C. Nautiyal and R. L. Choudhary in "Forest Planning Process in India". Here the authors observe that one of the very important shortcomings in the planning process is lack of reliable forest statistics. Working plans should be made in the broad general frame-work provided by national forestry planning at national and state level.

Role of forest survey

The role of Forest Survey of India is to provide the basic resource information, existing and potential, and information on demand and supply of goods and services now and in future which are so vital for any planning. The information should be collected to give a national and state level picture of forest resources.

Since most of the forest area in the country is government property, the inventory of the resources by Forest Survey of India in the first instance should consider government forests only.

Inventory of forest resources

In order to present a complete picture of how the land under forest is being utilized the following land classification is suggested. This may be neither complete nor exhaustive to meet all the requirements but is what the author feels to be workable.

Government Forest Land

Productive land	*Non-Productive land*
1. Areas with crop density 70%+.	1. National parks, wildlife sanctuaries and other protected areas from which one cannot expect any produce.
2. Crop density 30,—70%	
3. Crop density 5—30%.	
4. Plantable blanks (including grassy blanks; and area which could be planted etc.)	2 Areas suceptible to erosion i.e. slopes more than 60°, shifting sand dunes etc.
	3. Problematic area like saline-alkali lands, water-logged marshy lands for which effective and practical technology has not been evolved for afforestation and regular management.
	4. Water bodies.
	5 Rocky, unplantable area under cold deserts, alpine pastures, snow covered area.

The standing wood resource could be classified, as is being done now, into utility classes like ply-wood, saw-wood, pole-wood, pulp-wood, fuel-wood and no-utility volume.

For carrying out the land and wood resources inventory latest aerial photographs should be used for knowing the actual area under vegetation along with ground inventory. This procedure, of course, suffers from a defect in a sense, that there is a time gap between the year of photography and the year of actually carrying out ground inventory. This defect, of course, cannot be overcome since carrying out aerial photography at the time of taking up ground inventory every time is prohibitively costly. Moreover, on forestry scale a time gap of 3-4 years would not show any significant difference. A precise imagery interpretation technology has also not been evolved to be of use in data collection And until such time any such quicker methodology is evolved ground inventory with aerial photo-interpretation alone seems to be the better method.

Assessment of demand and supply

Detailed studies should be carried out on the actual demand of wood and wood products and their supply from forest area of the country. Once the future demands and supply position are indicated it would be proper to study how much of forest land is capable of producing what type of wood i.e. how much of area should be put under plantation of different species. The allocation of funds to the state from the Centre and within the state to different regions should be based on these considerations.

Periodicity of data collection

There are two aspects involved in the data collection. The first one is that if the data collected is to have a high precision the time required to cover the entire country would be more, say about 15 years. And under the fast changing (deteriorating) conditions of forests, by the time the data collection is over, the data collected at the beginning would become outdated. Moreover, it would not be the data of a particular point of time, which could act as a bench mark for comparing the changing situations. Alternatively, if the data is to be collected say within a period of 2-3 years, the task would need lot of money and trained personnel. Moreover, at lower intensity of sampling the precision would be low. However, the advantage of this second alternative is that a national picture at a base year could be evolved which would be helpful in planning and monitoring and hence should be preferable.

There is another aspect of data-collection which needs consideration. And that is in respect of inventory of minor forest produce and wildlife resources. Pre-investment Survey of Forest Resources organisation had an expertise in carrying out land and wood resources inventory and consumption and industrial investigation studies but did not have the expertise of preparing inventory of wildlife or minor forest produce. Forest Survey of India, as an organisation today does not have the necessary technology nor the trained personnel to carry out these inventories. These will have to be acquired by training its own staff and evolving a workable methodology of carrying out these inventories.

(Contd. on page 34)

How biomass sustains life!

Dr. (Mrs.) S. Kumar

Biomass keeps air, water and land clean and sustains life support system. Harnessing of bio-energy like biogas, biosolar fuels, producer gas and briquetted biowaste from biomass will go a long way to meet all round increasing energy needs of the people. Bioenergy is designed to encourage self-reliance through efficient use of vast indigenous resources and employment of technology with minimum pollution hazard to improve ecology and quality of life.

INDIA IS AN AGRICULTURAL country and the base of her economy is in her lands. The support of religion, culture and spirituality preserved social contentment and traditional ways. Society lacks the impetus to grow and expand. We are now trying to move towards development which naturally means moving away from the traditional poverty to modern affluence. It is also very important to change the ways of life. It is the younger generation which has to change the traditional ways of living, thinking and beliefs then only, there can be an improvement in the socio-economic condition of the country.

In a country like India, which has achieved food self-sufficiency to an extent, but is deficient in energy, the non-agricultural land will tend to be used for energy crops in contrast with those countries which are deficient both in energy and food and have little or no land to spare.

Source of fuel

To meet the energy crisis and the increased demands for food, fibre and feed, the only option for our country is to widen our agro-forestry base. Since agriculture is indeed a dynamic living and continuous system, the role of agro-forestry is to maintain land in a living and productive form so that human life is sustained for a very long time to come. While agricultural waste residues are a valuable feed stock for biofuels which can be utilized in a number of ways for productive purposes, it is necessary not to collect all the waste residues to enable natural soil enrichment to continue through degradation by soil micro-organisms.

Wood is the principal source of fuel in rural India, followed by oil products, animal dung, coal and others. Moreover there are certain peculiar characteristics associated with fuel wood consumption. For centuries, the poor man in this country has been freely using fire wood as a part of heritage and as long as he is poor, he will be doing so irrespective of whether or not he is aware of social costs involved.

A reliable source of energy

People at the bottom of our economic ladder might find it difficult to switch over to other costlier substitutes for fuel. As such, fuel wood will remain an indispensible source of domestic energy to millions. Most fuel wood is collected from private land or nearby forest area and transported mainly by human and animal labour. It is relatively energy inefficient and has low ratio of calorific value to weight output and hence it cannot absorb cost of large distance transportation and it finds no place in monetised economy as the majority of users collect it free of cost from forest and other woodlands.

If serious thought is given to adequate supply of energy at a reasonable cost then it comes to one reliable source that is "biomass". This is relevant indeed for all developing countries. The need to maximise production of woody biomass has, therefore, given rise to the term "Energy forestry". One of the natural assets of our country is the abundant sunshine. The total solar radiation received in India is about 60×10^{15} unit with 250-300 days of useful sun-

shine per year in most parts of the country. There is thus a vast scope of harvesting solar energy and improvement in photo-synthetic efficiency. Photosynthesis, of the photobiological process, is a continuous activity, creating organic carbon that burns with less air pollution than fossil fuels. Photosynthesis helps to remove carbon dioxide from the atmosphere and generates oxygen, the life sustaining gas. The wider use of biomass for development offer minimal ecological imbalance and provides means to recycle nutrients and carbon dioxide from atmosphere.

Apart from the natural resource of sunshine we have a lot of waste land. According to the report of the National Commission on Agriculture, Ministry of Agriculture and Irrigation, the availability of waste land amounts to about 40 million hectares in the country.

The correct choice of tree and shrub species in relation to habitat is of decisive importance in every phase of silvienllure including afforestation. In any trial of fuel wood plantation, wood plantation, local species should always be given first priority.

The following are some of the guidelines for selection of promising species. (1) The selected species should be hardy and require low in-put of water, fertilizer and plant protection measures; (ii) The species should meet variety of need e.g. fuel fodder, fertilizer and fibre having higher regeneration potential; and coppicing ability without loss of vigour under conditions of competition, minmum amount of bark, wood with high calorific value and ability to burn without sparks and toxic smoke; (iii) High density and short rotation will cause a heavy drain of nutrients from soil with hardly any litter fall available for recycling, therefore, selection of species with high nitrogen fixing capacity is not only desirable but rather an important criteria for selection; (iv) Agro-technological packages of culture practices for individual species and specific habitats need to be worked out in combination with appropriate fodder legumes or grasses; (v) Standardization of tissue culture techniques for production on a mass scale is a very large demand for planting material, and lastly (vi) Germ plasm collection of all the relevant species and their varients will have to be made for purpose of location specific adaptability trials also for incorporation in breeding programmes.

Importance

Utilization of substandard soil for fuel wood plantation is a challenging task to every energy planner Biomass may not be the solution for all energy problems but it will, no doubt, help reduce substantially our dependence on fossil fuels. Biomass enables us to keep our air, water and land clean and manage our life support system in a sustained manner. Two things are needed : first in view of our country being predominantly agricultural a perceptible tilt in favour of plants and plant sciences in our planning process by adoption of the photosynthetic model. This would have social, environmental, and economic benefits and will help in following ways: Conservation and improvement of soil water by reduction of surface run off, nutrient leaching and soil erosion, and increasing soil nutrients by addition and decomposition of litter fall; abatement of dust pollution; Control of floods; Better micro climate by decrease in soil surface temperature and decline in evaporation of soil moisture on account of mulching and shading; conservation of biological diversity resolving energy crisis in a decentralized manner; reduction of pressure on forests; employment generation; creation of aesthetic and pleasing landscapes; better health; better quality of life; halting influx of rural population into urban areas and decentralizing the economy.

Priority to tree and fodder planting

The only way to restore the forest cover is to take tree and fodder planting programmes on priority basis under the National Rural Employment Programmes (NREP) and recently announced Employment Guarantee Scheme (EGS) of the Government of India. Meaningful results can be obtained only if tree and fodder planting is taken up on a war footing and work started as expeditiously as possible.

Now oil is fast running out biomass is regarded important among the promising alternatives, but complete utilization of a tree to meet the requirements of sugar, natural and synthetic fibres, lumber, wood chemicals and fuels, (methanol, methane ethanol, ethane, gasoline), etc. has not been possible so far. Plants with high energy potential can be grown in high plant densities as feedstocks, for cleaner fuels and energy. The R and D on energy from biomass is at a fairly advanced stage in the developed countries because they have the requisite wide scientific base, capital and manufacturing capability for its compete utilization. It may however be emphasized that biomass can provide most of the products now obtained from oil and in time to come, cellulosic materials will be increasingly utilized as feed stock for this purpose.

The domestic energy problems, particularly of the rural community and the urban poor, in the developing countries, are indeed, very complex. They are closely linked with poverty and inequality.

In the first convention and symposium '84 the motto as per the late Prime Minister Smt. Indira Gandhi's message was "Ever increasing demand makes the use of bio-energy as a substitute for conventional and non-renewable energy sources essential. Unrestrained exploitation of minerals for fuel can have dangerous consequences by depleting and threatening fragile eco-systems."

Union Minister for Energy gave a message on this occasion, that "enegry from biomass is increasingly being recognised the world over as a very promising source of renewable energy consistent with environmental protection. Biogas, biosolar fuels, producer gas, briquetted biowaste are clean burning fuels obtained from biomass, which can go a long way to meet the growing energy needs of the domestic, agricultural, transport and industrial sectors. With the growing of energy from biomass, there is need for

concerted effort on promotion, production, conversion, conservation and efficient utilization of bioenergy."

Need for renewable source of energy

Now the need of the country is to search for alternate, renewable, non-polluting sources of energy. This should be top priority when the oil producing countries resort to frequent price-hikes.

Energy from biomass, no doubt has a very promising scope under Indian conditions because this sector encourages self-reliance through efficient use of vast indigenous resources and employment of technologies with minimum pollution hazards and can in fact improve the ecology. The Govt. of India established a Commission for Additional Source of Energy (CAES) in March 1981, and the Department of Non-conventional Energy sources in 1982 to emphasise the importance in this sector.

The Prime Minister's 20-point programme also emphasised the vigorous pursuit of programmes of afforestation, social and farm forestry and development of biogas and other alternative energy sources. The programme aims at the promotion, production, conversion, conservation and efficient utilisation of bio-energy.

Even the recommendations made by the Convention are in the direction of developing bioenergy resources. These are :

a. There is a need for precise data base regarding the production availability and consumption of various bioenergy resources as fuel wood, agricultural waste, cowdung, etc.

b. R&D work should be accelerated for utilization of biomass for decentralised, portable power generation and other appropriate applications.

c. The domestic chulhas should be tested for the smoke emission in addition to their thermal efficiency.

d. Manufacture of charcoal through pyrolysis of cotton stalk and other agrowastes in mobile kilns and briquetting in central mechanised unit need further studies to establish their techno-economic viability.

e. Appropriate models should be developed for afforestation of degraded soils, considering the soil water and ecological factors.

f. Research priority should be fixed for utilization of fast growing, multipurpose tree for weed energy alternatives. For this purpose, biomass research and demonstration centres under different agro-climatic conditions, should be set up. □

Some aspects of Indian economy

(*Contd. from page 18*)

little or no opportunities of procuring gainful employment. Such a situation gives rise to problems of social relationship and interaction between people in terms of social occasions such as marriages and parties.

The third category of unhappiness relates to the well-to-do who have no material problems. But their problems arise from a want for social recognition and competition for status. Most of the persons belonging to this category are obsessed by psychological problems arising out of unfulfilled desires and ambitions or want of adequate affection or love. These problems acquire various dimensions and are caused because social institutions are not able to keep pace with changing conditions brought about by the break-up of joint families, constant change of work place and shifting or bifurcation of homes. We also have the problems relating to the old people, who, due to the increase in longevity can live longer but are unable to stay with their offspring and are left neglected. Their problems are caused by changes in the social set-up (especially in the field of culture) that is influenced by trends in the modern developed Western societies, which the well-to-do in our country try to emulate.

And yet, with all these problems, there is a rich store of excellence in practically every field of life—from arts to science and from culture to sports. There is excellence in literature, engineering, medicine, technology, administrative cadre and performing arts. Also, some of the gifts of our traditional heritage such as yoga and spiritualism have gained world-wide acclaim.

All that is now necessary is the creation of better opportunities for the productive and creative capacities of all our work-worthy people. Once this is done, we will find that they can bring about a transformation in our whole socio-economic structure and can give up all petty and narrow feelings. They can take pride in building a new, prosperous and united India.

In the next chapter, I propose to deal with the question of present economic disparities and distortions and suggest a solution based on participatory economic democracy so as to bring about the balanced growth of the entire nation. □

How appropriate is appropriate technology?

D. K. Dixit

Many of the claims made for appropriate technology are exaggerated. In fact, it is something that does not involve huge capital outlays. Technology derives its appropriateness from correct identification of needs, the strictness with which the choice criteria are observed and the manner in which it is transferred and used.

APPROPRIATE TECHNOLOGY is a concept, a set of ideas or a framework within which to think and act for the development of a society. The aim of the concept is to provide a basis and a method for the choice of technology. It is a concept intimately connected with development, whereby the development is of people rather than things, although the development of goods and services is seen to be a necessary appendage.

The all-embracing nature of the concept has led sociologists, economists, philosophers, technologists, planners and environmentalists to contribute towards its definitive descriptions. The concept leads one to discuss social issues like unemployment, population growth, rising inequality in society, urbanization, etc., in a new way. It questions the dominance of the economics relating to capital and income resources, labour-to-capital, capital-to-output and output-to-labour ratios, to economies of scale, to market and social prices, etc. In the sphere of technology the concept questions the indiscriminate use of mass-producing western sophisticated technology and puts new constraints on the activity of production by insisting on the use of local materials and skills for local needs and use. On a philosophical plane appropriate technology relates to the concepts of peace, non-violence and permanence and stresses dignity and the ethics of work. Within the context of planning, the concept puts the emphasis on both short and long-term policies that will encourage self-reliance, on bringing points of production and consumption (both in space and time) closer, and on decentralisation with respect to planning and decision-making within the 'regional approach'.

Problems of developing nations

The four major problems of this type facing developing countries are :

Mounting unemployment.

Rural-urban migration.

Unequal distribution of the benefits of development.

Increased vulnerability to the policies of other nations.

Until the present time in history, the three major problems faced by developed societies that raised questions about the choice of technology are :

Alienation of workers from their work, from the products of their work and from other human beings.

Environmental degradation and pollution.

Rapid depletion of resources.

This classification of the different problems of developed and developing societies is, of course, general and indicative only of the primary concerns. In many cases, however, the above problems are common to both groups of countries.

Technological strategy rural uplift

In many developing countries in recent years attention has been directed towards evolving strategies with particular emphasis on rural development. The need to recommend new strategies arises from the

disenchantment with past strategies of national development, the three major components of which were :

- Central planning, control and co-ordination of the economy as a top-down process.
- Industrialization and expansion of the modern sector as a means of rapid economic growth.
- Aid from developed countries and transfer of international technology.

It is now scarcely disputed that this strategy has promoted dependency culture and has led to the 'continued exploitation of peripheral areas by the metropolitan core, both internally and externally'. The strategy was largely based on the percolation theory of the distribution of the benefits of rapid economic growth. The fact that over 60 per cent of the people (primarily in rural areas) still continue to live below the poverty line has led to disenchantment with this 'technocratic' and 'bureaucratic' strategy of development.

Dimensions of rural problems

The large percentage of the population living in rural areas, the prime necessity for prosperous agriculture for self-reliance in food, the decreasing land-man ratio in the wake of alarming population growth, the incapacity of the modern industrial sector to augment employment and the continuously declining purchasing power of the rural poor are some of the parameters which indicate that 'solutions to basic problems of underdevelopment must be found in the country-side'. The debate now is between the 'reformist' and the 'radical' strategies of rural development. The strategies differ in 'objective, ideology used to mobilize support and in the way benefits of economic system and growth are distributed.'

In defining the objectives of the two approaches in the above manner, different action-options emerge. These options relate to the processes of :

- Participatory planning.
- Creation of political leadership rooted in the masses.
- Land reforms.
- Institution-building.
- Reorganization of geographic space towards achieving social equality.
- Remoulding of elites and their life-styles.
- Transformation of attitudes and methods in technological research.
- Adaptation and dissemination calling for development of appropriate technology.
- Reorganizing education so that work, learning and mass-contact are considered essential to the creation of manpower that sees itself as a positive contributor to the process of development and reduction of inequality rather than as earning a passport to privilege.

The radical and reformist strategies, while agreeing on the action-options, differ in the manner of implementation of the options cited above. The reformists propose 'policy incentives' and, oddly enough, even 'authoritarian coercion' in the hope that a clear demonstration of the latter action can itself be a propellant for change. The radicals see the implementation process essentially as a struggle game; because the transformation suggested by the options would hurt certain sections of society and would naturally be resisted. Happily both the reformist and radical strategies recognize the importance of technological transformation. What the content and the methodology of this transformation should be is really the task before the practitioners of appropriate technology.

Correct identification of needs

Often the needs of the weakest sections of society are approached in technical terms in such a way that technical solutions are not always possible; or, if the solutions are possible, social conditions are such that the benefits of technical change will not accrue to the weakest because of lack of social control. One of the tasks facing appropriate technology practitioners is to identify the needs correctly so that benefits will truly reach the neediest.

What should not be overlooked, of course, is that technology derives its appropriateness not only from correct identification of needs and from the strictness with which the choice criteria are observed but also from the manner in which it is transferred and used. When production relations change, the vested interests play a dominant role. As such, whenever consideration to the problems of transfer and use of technology is not given, well-intentioned alternative techniques either are not implemented or are misused, leading to further imbalances in the society.

It is generally argued that appropriate technology is labour-intensive, environmentally sound and is based on the local resource base. All of this is probably true in specific instances, but many of the claims made for appropriate technology (AT) are exaggerared. It is also implied that appropriate technology is necessarily that which does not involve huge capital outlays and something which is not very sophisticated in terms of scentific and technical inputs. "This, obviously", says Dr. C. S. G. Prasad, "is sheer nonsense For example the communications requirements of a spreadout nation like India would probably be best served by a satellite-based communications system. That is, in this case a communications satellite is 'appropriate' But it costs several crores of rupees and the scientific and technical inputs are the most modern that modern science can offer" □

Whither self-employment scheme !

Dr. H. P. Maheshwari

While evaluating the implementation of self employment scheme for educated youth the author points out that cumbersome procedure, political interference and un-co-operative attitude of the banks' have not allowed the benefits of the scheme to percolate to the poorer sections of society or whom the scheme was meant.

THE PROBLEM OF UNEMPLOYMENT of educated youth has assumed serious dimensions in India. The number of educated unemployed is increasing at a faster rate in the country due to higher population growth rate on one hand and substantial expansion of technical and non-technical education opportunities on the other hand in the post independence period. The growth rate in the Indian economy has been slow. Blaug, Layerd and Woodhall asserts that "Supply has consistently moved ahead of demand, so that educated employment as a fraction of the stock of educated manpower has relatively been constant." The educated unemployment in India in March 1980 numbered 34.7 lakhs and 77 7 lakhs are likely to be added to this number during the Sixth Plan period (1980-85). But expected employment creation for the educated during the plan period is just 65 23 lakhs. Thus the backlog of educated unemployment is expected to be 46.57 lakhs at the end of Sixth Plan.

The perusal of available data on educated unemployed reveals that compound rate of increase among graduate and postgraduates has been faster compared to matriculates. The proportion of matriculates in the total educated unemployed was 78.5 per cent in 1961 and this declined to 54.5 per cent in 1979. Thus, the proportion of undergraduates and postgraduates has increased over the period. Further, the percentage share of graduates and postgraduates in the labour force is just 2.7 per cent whereas their percentage share in unemployment is 9.4 per cent. Rate of unemployment is highest i.e. 26.97 per cent for this group of educated youth compared to any other group of educated people.

Employment opportunities

The opportunity to provide employment to the educated is limited. The past experience tells that rate of creating employment opportunities in the manufacturing sector and services has been low compared to growth rate in the educated work force. Employment in the public sector which stood at 70.50 lakhs in 1961 increased to 154 84 lakhs in 1981. Thus, our public sector has contributed, on an average, employment to 4 22 lakhs annually during the above period. Similarly, employment avenues in the private sector increased from 60 40 lakhs in 1961 to 73.95 lakhs in 1981.

The private sector has contributed 1.18 lakhs jobs annually during the period. So our public and private sector cannot absorb the whole increase in work force. A considerable number will have to seek employment somewhere else and self employment ventures in agriculture, village and small scale industries, and allied activities and non-farm occupations seems to be the best possible solution for unemployed educated youth.

The object of the present paper is to evaluate the implementation of self employment scheme for educated youth announced on 15th Aug '83. The study is based on primary data and information collected by the investigator from 15 branches of different public sector banks in Bulandshahr and Ghaziabad district and 309 applicants who applied for financial assistance under the scheme. Financing of the scheme has been included in the priority sector and the government has raised the target for priority sector from 33 per cent to 40 per cent of the total lending within

five years. Under the scheme 2 to 2.5 lakhs educated youth are to be provided financial help annually to a maximum amount of Rs. 25,000|- per individual so that they can stand on their own legs. A sum of Rs. 160 crores was allocated for the scheme during 1983-84.

Beneficiaries

The data reveals that out of 308 applications received for financial assistance by the 15 branches of different public sector banks in Ghaziabad and Bulandshahr district loans were sanctioned for 62 per cent applicants. Some of the applicants could not complete formalities and their applications were not considered by the banks. Loan disbursement could be made in respect of 92 per cent of applications accepted for sanctioning of loan. Some of the applicants did not turn up to avail the loan. The study reveals that more than 70 per cent of the branches achieved the target set for them.

Average time taken in the processing of an application did not exceed 15 days. The minimum and maximum amount sanctioned to individuals ranged between Rs. 5,000|- to Rs. 25,000|-. The study reveals that 44 per cent of the borrowers were undergraduates, 51 per cent were graduates and only 5 per cent were postgraduates. Only three applicants were ITI trained technical hands. Thus, non-technical graduates and undergraduates were the largest beneficiary of the scheme.

Utilizing the loan

The perusal of loan applications further throw light that retail business has been the largest claimant of the bank assistance. 58 per cent of the applicants, to whom the loan was disbursed, applied for retail business of general merchandise, grocery, building material, sports goods, spare parts, agricultural implements, cotton cloth and ready made garments. Repair of refrigerator and other electrical goods, installation of printing press and oil expellers, steel box manufacturing, tyre retreading, making of polythene bags, zari work on saree and dairy and poultry are other activities financed under the scheme. These activities will certainly create further employment ranging from 2 to 5 persons per unit depending on the nature of work financed under the scheme.

The survey reveals lack of inclination among the loan seekers for such work which are of a little technical nature and involve purchase of machinery and tools. They feel that starting of a retail business is convenient and low risk bearing activity. Some of the borrowers had past experience in running such trade. Secondly the amount of loan i.e. Rs. 25,000|- is so meagre that no manufacturing unit can be opened. Even in a polythene bag stitching unit, financed under the scheme, the cost of the machinery was reported to be Rs. 23,000|-. The government should have made distinction between the service and manufacturing units at the beginning of the scheme and fixed higher limit for the later. Alternatively, two or more youth should have been encouraged to start a manufacturing unit collectively.

Who are the loanees ?

A cursory perusal of the list of loanees reveal that only influential persons or their relatives or those who enjoyed the support of local political leaders got the lion's share and the real aim of the scheme to help the poor sections of society could not be achieved. A large number of borrowers included relatives and dependents of DIC and Bank's officials and those having political background. In fact the average educated unemployed did not have proper knowledge of the scheme and in cases where he had the knowledge, he lacked courage and skill to follow the procedure. The greedy and the resourceful were successful in pressurising the banks to sanction loan, avoid delay and adopt a liberal attitude.

It was also observed by the investigator during the survey of the establishment of the borrowers that in some cases the candidates were already running some business and thus were not eligible for financial help, still they were accommodated by the bankers. Thus, cumbersome procedure, political interference, uncooperative attitude of the bank and lack of awareness about the scheme among the youth have not allowed the benefit of the scheme to percolate to the poorer sections of society for whom the scheme was meant. Self Employment scheme is a step in the right direction and banking system can certainly play an active role in making the scheme a success if it is implemented in right earnest and certain modifications are introduced.

Modifications

There should be greater liaison between the state government and the banks if the scheme is to get momentum. It has been observed in the past that "most state governments have not shown adequate seriousness in promoting self employment schemes". The state governments should help the banks in identifying viable projects and making recovery of loans. The state governments should maintain regular contacts with banks.

Technical hand should certainly get preference in getting loans over the non-technicals. But the study reveals that technicals did not seek loan under the scheme. It will be better if the scheme is divided into two categories namely Self Employment Scheme for Technicals and Self Employment Scheme for Non-Technicals. The loan limit for the former should be raised.

Technical and managerial training is sin quo non for the successful running of the self employment unit. In this connection 'Entrepreneurial Development Scheme' recently introduced by State Bank of India in Bulandshahr district in May 1984 is worth noting. Under the scheme 25 educated unemployed youth have been selected majority of whom are technicals. They have been given intensive entreprenuerial training to set up a unit. The bank has given assurance to provide liberal loan facility to the trainees. The training programme-cum-employment opportunities scheme initiated by A. P. Government as early as in 1958 deserves to be followed in other states. There are now 24 production centres in eleven trades and 12 training centres in 5 skills managed by an official organisation known as SETWIN. As a result of efforts of the State Government, of the 20,000 small units set up in the state, as many as 10,000 are said to be self employment units. This also brings to light that if proper interest is taken by the State Governments, the scheme can make tremendous progress. □

Treatment for vertig

Prof. S. K. Kacke

Vertigo is a disordered orientation of body in relation to space marked with an acute feeling of insecurity, nausea, vomiting, palpitation with sweating of body and feeling of lethargy and weakness. It is a disease most of the people experience in their life. Here the author discusses protective and preventive measures for the treatment of this disease.

VERTIGO IS DEFINED as a disordered orientation of body in relation to space. In simple words, it means that a person has a feeling of movement of outside objects or his own body in relation to each other i.e. the chair on which he is sitting or bed on which he is lying seems to be moving or he himself has a floating sensation. If you have darkness before your eyes or a feeling of heaviness in head after a sleepless night or a hangover due to dinking it is not a vertigo. Most of you who have gone on a Merry-go-round or a Giant-wheel in the fairs, would have felt the ground moving when the wheel stopped and you got down from it. This is a true vertigo.

It is said that most of us would have experienced vertigo at sometimes or other in our life and as we grow old our chances of getting significant vertigo increase. By the time we are 60 years of age, half of us would have suffered from troubling bouts of vertigo. Once you get an attack of vertigo you have an acute feeling of insecurity. You may have nausea, vomiting, palpitation with sweating of body and feeling of lethargy and weakness. It is only those who have suffered from vertigo, realise the feeling of dread and anxiety caused by it.

Common causes

If we know about the common causes of vertigo, and investigations of a patient with vertigo with special emphasis on the precautions, exercises and cooperation required from the patient, it will help managing the cases very effectively.

Eight out of ten of the cases of vertigo in young age group are due to the diseases of the ear. E contains nerves for hearing and balance. So in ea diseases of hearing loss and vertigo can occur. I older age group the vertigo is due to the involveme of balancing mechanism in the brain and may l associated with weakness of the hands or legs face.

The vertigo due to ear-diseases is usually not dai gerous to life, but if vertigo is associated with tl diseases of brain it can be serious.

Sometimes due to an attack of vertigo a patie may fall down but may be fully conscious. If yo come across such a patient on roadside or in yo house, make sure that he is breathing normally ar make him comfortable Do not make an attempt make him get up, but let him lie down flat on tl ground. Make sure no stones or sharp objects are i juring him. Loosen his collar. Excessive moveme of head or jerks can precipitate vertigo or make worse. Most of the attacks of vertigo due to ear d seases will pass off in few minutes. The attac which are due to diseases of brain may persist. I either case, after waiting for about 5 minutes, pers may be asked to open his eyes and look in all dire tion. If he does not feel uncomfortable, he may l asked to gently raise his head. If he gets a verti let him lie down again. On the other hand if l does not get vertigo ask him to gently sit up. H may feel slightly dizzy but this will pass off in fe seconds if he sits still. Wait for 5 more minutes. he is comfortable he can stand up. Then he can l transported to the nearest available medical fac lities. If it is the first attack of vertigo it is ve disturbing. In those persons who have had previo attacks of vertigo, the course of this complaint wou be known to the person and he will not be so afrai

Once the patient is settled take him to the ho pital for a check up. The doctor has to investiga him in detail with following questions in mind. Do

he have a true attack of vertigo ? What is the site of the diseases ? What is the cause of the disease ? How best the patient can be managed ? What precautions and exercises can prevent vertigo in future?

Investigations

Does he have a true attack of vertigo ? This question can best be answered by taking a detailed history. Specifically we should establish whether the patient feels movements of his body or movement of the surrounding. This may be associated with hard of hearing, ringing or buzzing noises in the ear and feeling of fullness in the ear. Association of nervousness, sweating, nausea and vomiting suggest that the complaint is severe enough to deserve further investigation.

The doctor will have to examine the patient to settle site of the diseases. The examination of eye movements is very important. The presence of to and fro movement of eyeballs confirms that the patient has significant abnormality of the balancing mechanism. This movement is called nystagmus. After this the hearing of the patient is examined in detail by audiometer machines. It is possible to find out the exact place of damage to the hearing mechanism i.e. whether it is the middle ear, inner, ear, nerve connecting inner ear to brain, or brain itself, and which particular portion is diseased.

Then we test the vestibular system. In this test we put warm and cold water in the ear. This water stimulates your balancing mechanism. This creates artificial vertigo The reactions after this artificial stimulation tell us if the mechanism is working properly or not. If there is no response this means the balancing organ has become weak. If there is a marked hyperactive response it means it is irritable. These tests tell us the site of disease causing vertigo

The comparison of hearing and balance tests gives us the exact site of damage which is causing vertigo

Cause of the disease

The site of damage may be in the inner ear or nerve or brain. We have to find out if it is due to disease affecting the blood vessels, injury to inner ear, tumour of inner ear, infections of inner ear or diabetes etc. The site of damage can be decided only by doing further tests.

Those tests include X-ray of skull, X-ray of neck, X-ray of ear bone etc. In case of suspected tumours CAT scanning can show as the exact extent of the involvement of the inner ear or brain. This is important to know, because if tumour is so big as to press on brain, the patient wil require the help of neurosurgeons for an operation. Such patients may have associated blindnes, headache, paralysis of face or hand or leg or unconsciousness. Such complaints denote brain disease and are not seen in persons when disease is restricted to the ears only.

Blood tests are done for sugar to find out if person has diabetes They are also done to confirm the diagnosis. How best we can manage him ?

Treatment

Once the cause is known patient can be treated. In more than 80 per cent cases the treatment is by drugs to control vertigo.

In case a tumour is detected it can be operated. If there is high blood pressure or diabetes, it can be controlled. If the vertigo is associated with cervical spondylitis, patient may require cervical collar, neck traction or short wave diathermy. In short, the vertigo can be controlled by drugs, and the disease is treated depending on the causative factor.

Preventive measures

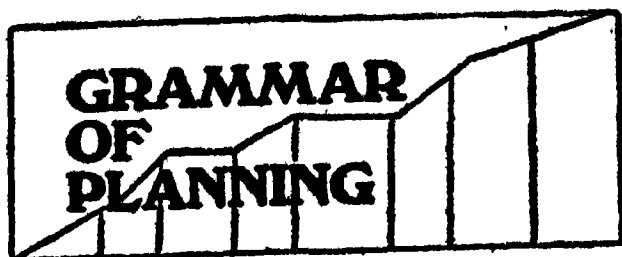
It is advisable to restrict salt intake. This means that aerated drinks, fried nuts and other foods containing salt are to be avoided. Drinking of alcohol, smoking, drinking of coffee and tea can cause worsening of symptoms. This happens due to fluid retention and constriction of blood vessels going to the brain. Smoking is very harmful. The drugs which are given in older age group to increase the blood supply of brain by dilating blood vessels are neutralised by smoking, as it constricts the blood vessels.

During the acute attacks of vertigo avoid driving car, scooter, swimming or crossing busy roads. When crossing a busy roads one has to twist the neck quickly on right or left side. This may precipitate an attack of vertigo and the patient may fall down and be injured by speeding vehicles. This is specially true for the elderly patients. Patients are known to have been drowned in swimming pool or met with a road accident, when vertigo occurs suddenly. The mountain climbing, working near open fire, walking in a high-rise building and steep stair-cases should be avoided.

The head and neck exercises can strengthen the balancing mechanism.

If you take the above precautions the vertigo can be prevented, and if it occurs its side effects can be minimised. ☐

(Based on public lectures of All India Institute of Medical Sciences, New Delhi).

A Serealisation 12

P. R. Dubhashi

Financing the plan

Physical targets and physical resources are the two components of the planning. Necessary outlays have to be earmarked in order to reach the targets. In this chapter, the author details the methods for raising financial resources for plan.

THOUGH THE PLAN in the ultimate analysis has to be in terms of physical targets and physical resources, the operating agencies have to incur financial outlay to reach physical targets and required financial resources have to be placed at their disposal for the purpose. Those financial resources have to be raised by fiscal authorities.

Of course, it is not easy to distinguish between the plan resources and non-plan resources nor is it easy to accord precise meaning to plan outlay and non-plan outlay. The non-plan outlay may on analysis be found to be as significant to the achievements of the plan as the plan outlay itself. Thus, all expenditure is as crucial to the success of the plan as the expenditure on the plan schemes themselves. Sometimes that is over looked with the result that while new roads are constructed, new schools opened, and new dispensaries established out of the plan funds, the roads are not maintained, the schools are neglected and the dispensaries are not properly supplied with medicines in the absence of the maintenance grants for recurring expenditure thus frustrating the very purpose for which the plan expenditure was originally incurred. The essential and ultimate unity of plan and non-plan expenditure cannot be overlooked.

The financial resources for plan have to be raised by the same means by which the state resources are generally raised, i.e., through taxation loans, and surplus income of public enterprises. However, with the progress of planning, it is the last which is expected to be the most buoyant and dynamic. The public enterprises and assets created out of plan expenditure are expected to yield surplus resources which could be reinvested to carry the plan forward. This is possible, however, if the investments are sound and the enterprises are run efficiently.

It is often said that in a communist country there are no taxes on citizens. All that this means is that the resources are raised by public authority in some other manner. Since all the means of production are owned by the state and the distribution system is also publically owned, profits of public enterprises provide the necessary resources to the state. The public enterprises make profits out of the captive market where prices are fixed by the public authority. The prices so fixed may allow for large margins which have to be tolerated by the consumers because of the monopoly of the state producer. In such a system of planning, therefore, prices may not represent the cost of production but the deliberate decisions of the public authority or the planning authority to raise the necessary resources.

Taxes may be direct or indirect. With growing incomes and economic transactions both direct taxes, like income-tax, and indirect taxes, like customs, excise and sales tax, may syphon off to the public exchequer a good chunk of growing income in an economy stimulated by plans. However, where private enterprise has still a role to play, extremely high taxes may prove counter productive and investment may stagnate. However, what constitutes the taxable capacity in a planned economy cannot be stated with any degree of accuracy.

It has, for example, been argued that there is considerable potential of raising taxes on agricultural incomes of the large, progressive farmers specially in irrigated areas whose incomes have rapidly increased, thanks to the Green Revolution. Suggestions have also been made to raise tax in the form of labour for local community works.

Where infrastructure facilities, like irrigation, power generation and roads and communications are provided out of public funds, it is right to expect that the public authorities would levy charges, such as electricity rate, road tolls, betterment levies and water rates, which not only cover costs but place surpluses at the disposal of the planning authorities. It is but right that those sections of society who derive benefits from planning must be willing to bear their own share of contribution to continue the planning process so as to benefit those who have yet to receive the fruits of planning. Unfortunately, though strengthened by the plans, those beneficiaries use their strength to avoid paying their legitimate contributions. Planning authorities, therefore, have to make an effort to create an atmosphere on plan consciousness to such a degree as to evoke a spontaneous tendency of commitment to plan effort.

In addition to taxation and loans, there are many other special ways of raising resources. For example, life insurance, if nationalised, places at the disposal of the state vast resources for development programmes. Of course, if the development programmes are themselves not very remunerative, the question of fair yield to the insurance funds invested in such programmes may arise. If, however, insurance becomes universal, it can adequately support the development programme which is also universal in nature. In a country like Sweden, compulsory contributions to the pension fund or social insurance fund have placed enormous quantities of resources at the disposal of the public authorities. In addition, small savings deposits in postal banks and other banks, special savings schemes, like the Unit Trust, Provident Funds, etc., can mop up growing resources and make them available for the purposes of planning. Institutions like land development banks or electricity boards raise resources through debentures. Apart from normal banking institutions, cooperatives can also be encouraged to raise deposits from a large number of rural people as yet uncovered by banking.

In a federal organisation, where the plans are divided between the federal plans and state plans as well as local plans, allocation of resources as between these three categories of plans arises as a major issue. Normally the constitution and legislation provides a scheme of allocation of resources. However, the scheme may not necessarily fit in with the financial burdens which these authorities have to bear to support their plans. Where such a divergence arises between the scheme for allocating resources and responsibilities of planning, many complications may well arise in the process of planning Thus, in India, the states are always vociferous in clamouring for larger plans but not equally enthusiastic in raising commensurate resources. Instead, they are always eager to secure larger share in grants allotted by the Centre. The Indian Constitution allows for quinquennial finance commission, for allocation of taxes and statutory grants. But the discretionary grants under the constitution are at the disposal of the planning authority for allocation according to plan responsibilities of various states. However, allocation of such grants can be an occasion for acute horse trading. To eliminate this, the Indian Planning Commission has laid down a formula, known as Gadgil formula, anomalous to the formula of a judicial nature adopted by the Finance Commission.

Such are the demands of planning for more and more finance that all the sources suggested above may not be adequate and the plan and finance authorities are compelled to resort to deficit financing. This remedy, however, is likely to prove worse than the disease triggering off inflation which is rightly regarded as the most regressive tax. Deficit financing thus must be considered as a sign of incompetence of fiscal and planning authorities.

Inflation is not to be looked upon as an invariable concomitant of a developing economy. As W. Arthur Lewis suggests, growth without inflation is possible with balanced development of agriculture and industry. To quote him : "(though) some of the better organised societies can safely finance some capital formation by the creation of money, must underdeveloped countries would be unwise to launch upon an inflationary course because they could not control it...... Once the tradition of monetary discipline is lost, government takes to inflation like ducks to water and financial control disappears. Continuous price inflation moving domestic costs out of the line with prices can be a major source of economic stagnation".

Foreign exchange resources for planning are secured through exports promotion and import substitution. Exports cannot only secure foreign exchange needed for economic development but also serve as an engine for growth. For example, Venezuela has found in oil export an engine of growth which has enabled her to attain a growth rate of six per cent. Failure to plan and attain a satisfactory rate of growth can constitute a brake on economic development.

Control over prices is essential from the point of view of retaining export capability. Rise in domestic costs can price out country's commodities from international market forcing devaluation or series of devaluations.

Foreign aid, i.e, external borrowing can help the country and fill in the gap in foreign exchange resources. □

New lighthouse at Kasargod

A MODERN ELECTRICALLY operated lighthouse with an effective beam intensity of one million candles has been commissioned recently at Kasargod in Kerala.

The light which has been installed on a R.C.C. tower of 30 metres height has an effective range of 17 miles in adverse weather conditions.

It will serve the ships plying in the international routes from Bombay to Colombo and far East and also for the ships on the coastal shipping route from Kandla to Cochin. □

BOOKS

Child Adoption

CHILD ADOPTION—A Study Of Indian Experience by H. M Billimoria, Himalaya Publishing House, Bombay 1984. Pages 200. Price Rs. 90.00.

THIS IS AN EXHILERATING research study in the various aspects and ramifications of child adoption in India. Mrs. Billimoria, the author, does the job marvellously by giving us insights into the manifold areas that get involved.

Tracing the origin of adoption, the author holds the view that in the ancient world, the practice of adoption prevailed both in the East and the West. It prevailed in Greece and Rome, the two civilizations which have influenced deeply the Western thought and culture. In her view, the importance of a son has been one of the main motivations for adoption right from ancient times. The present law, Hindu Adoption Act of 1956, dealing with the subject was sought to be improved upon by the Adoption of Children Bill, as approved by Joint Select Committee of Parliament, but the Bill was withdrawn Later on, a new bill, called the Adoption of Children Bill, was introduced in Parliament in 1980. It excluded the Muslims from its coverage.

The six chapters of this book tell us mostly the psychology of the parents and the adopted child. The study finds out that adoption cuts across all classes and creeds, the rich and the poor, the educated and the illiterates, the professional, the top businessmen and the skilled and the unskilled labourers as all of them want to adopt. Most of the adoptive parents are in the age-group of 31—40 years and are married for 16—20 years. "It is easier for a child to be adopted in nuclear family because the interference of a joint family was not present or not so important".

There is a notion that Indian parents are selective, being very particular about the kind of children that they wish to adopt. The preference for a male child can be understood if we take into consiedration the fact that the main reason for adoption was for continuance of the family name, inheritance of property and security in old age. Only a son could provide for all these. It has been found that there is a preference for a child belonging to the same religion though not of any special caste.

It is true that in the process of bringing up, one of the important tasks is of disciplining the child, and the handling of the problems of adolescence and growing up in which conflicts could be usually present. This study brings out the fact that the adoptive parents never felt the child was not theirs because it was adopted. Majority of them had the same satisfaction in bringing up the child as the natural parents. In their desire to be 'real parents' and the take on the parental role, they have succeeded in 'washing out the biological background information on the child. Though most of them felt sorry for the mother because she had to give up child, few had much sympathy for her which is based on a greater understanding of the situation.

An interesting finding is that the adopted children were particularly anxious to know why they were given up. This was a threat to their self. They wished to establish some identity with their natural parents and wanted to know more about them. Naturally, this points in the direction of skillful case work with parents and children on a continuing basis, being offered to the parents right from the start to prepare parents and help them to cope with problems if any in the process of growing up in a relatively unchartered task of adoptive parenthood.

This research study has opened vast opportunities and challenges for further investigation on many behavioral areas which an adopted child and adoptive parents should be encouraged to tell the child of his parents manifest. The study also recommends, and rightly so, that all agencies and associations concerned with adoption should make greater effort in two directions viz. : (a) to dispel the notion that Indian parents are selective and encourage Indian parents to adopt in large numbers, and (b) concerned organisations should be organised in explaining to the lay public what adoption means, and help in doing away with the notion that adopted child because of his|her unknown heritage has necessarily to have a bad heredity, and will therefore cause trouble in later life.

The author suggests that there should be more information given to the adoptive parents about what it implies as also the kinds of responsibilities that adoption involves. She recommends that adoptive parents should be encouraged to tell the child of his| her adoptive status. This would strengthen parent-child relationship without any harmful repercussion. Social welfare organisations should discourage secret adoptions which usually mean no supervision. In such cases if problems arise, adoptive parents do not know where to turn for help They may also not get the benefit of case workers' advice on how to handle the adopted child later on. It is also suggested that if childen are given in infancy, care should be taken not to give a child if there is a history of mental deficiency in any one of the parents.

This book, one can confidently say, will serve a useful purpose in our social set-up where adoption is still not the usual practice with childless or sonless parents.

Meena Bhandari

Sharing the Prosperity

'Regional Planning in India' by Mahesh Chand and V. K. Puri, Allied Publisher, Delhi, Rs. 55. pp. 541.

IN A COUNTRY with a federal set up it is expected that the perceived needs of the people ought to be provided in a manner that would ensure reasonable

level of equality in distribution of the benefits of development across the federating units. This however requires a concerted effort to devise suitable policies and strategies for alleviation for disparities in the various socio-economic groups and regions.

As the inequalities in income and wealth have perpetuated during the plan periods, the researchers and policy-makers have shown growing interest in tracing out the factors that have either helped or hampered the reduction in inter-state disparities. This has led to emergence of a plethora of literature.

The book, under review, is an attempt to present a synthesis of the various studies on regional disparities in socio-economic development The book has been written under 'the U.G.C. scheme of preparation of university level books by Indian Authors' with a view to providing reading material for graduate students. The scope of the book is therefore greatly limited from the point of view of both policy recommendation and guiding research in future.

The authors have however emphatically claimed at the out-set, "We intend to show that neglect of regional factors has made the planning process highly unrealistic and artificial and has reduced to an exercise in sectoral allocation of investment and target setting—nothing more, nothing less". Though this may not be the main objective of the book, it has utterly failed to justify and demonstrate how the Indian planning process has been highly "unrealistic and artificial" Such sweeping remarks do more harm than good by distorting the plan achievements

The first four chapters deal with the different aspects of regional planning, such as, definitions of the various units which form the basis for planning, the essence and the coverage of the subject and the different techniques which are employed in regional analysis and planning. An over-view of the plan performance reveals that the number of people below the poverty line and the socio-economic disparities among the states, as measured by the different indicators of development, have increased.

Though population explosion is one of the major responsible factors for neutralizing the effects of economic policies, the lack of effective implementation of programmes due mainly to non-existence of proper planning machinery at the state level and the requisite infrastructure have added to the dimension of problem of poverty and inequality. Therefore that the state governments are considerably responsible for poor performance of the state economies

The extent of differences in socio-economic levels of attainments among the different states have also been discussed The discussion is confined to works published until early seventies excluding the latest studies on the subject The assertion that the per capita income of the different states are non-comparable due largely to variations in prices is slightly exaggerated. The Central Statistical Organization (CSO) has made a commendable effort in minimizing this problem by developing a comparable series of State Domestic Products (SDP), which duly makes suitable adjustments for variations in prices across the Indian states. The comparable CSO data on the state incomes, of which no mention has been made, are invariably used by the Planning Commission and Finance Commission for determining the share of the states in the Central pool of resources, as this is considered to be the most reliable basis for comparing the extent of backwardness of each state. Some of the inferences drawn in respect of imbalances in industrial growth are weak and inconclusive.

A detailed examination of the relevant data in the book indicates that the percentage share of industrially advanced states, like Maharashtra, West Bengal and Tamil Nadu, in the total number of licences issued has declined during 1976—78, as compared to 1963—67 (p. 206), while the proportionate share of other states has marginally increased.

Two major factors ought to be borne in mind while discussing the industrialization of the state economies. First, due to the existence of a strong capital market and a network of infrastructural facilities in some advanced states, a large chunk of private sector investments have, for obvious reasons, concentrated there. Though the Central Government plays a crucial role in guiding the investment policy, there is a limit to which it can intervene in the area of private investments especially when every state government is competing with each other in attracting the funds through various incentive schemes. Second, it could also be argued that due to low level of literacy and therefore lack of entrepreneurship in the backward states, commercially viable projects could not be undertaken. In a resource deficient country like ours, regional planning in the sense of heavy financial outlays in the backward states would cost heavily in terms of efficiency While equity consideration is no doubt strong, diversion of resources at a massive scale is always a difficult task in a country which has federal polity as we have. This is merely to point out that a simplistic analysis would hardly provide sound basis for appropriate policy decision.

A vary naive conclusion has seemingly been drawn in respect of credit advances by the public sector banks. The amount of credits in every state is observed to be less than the totla amount of deposits in each state (p. 213). The data presented in the book are, therefore, insufficient to draw the conclusion that the public sector banks have diverted "the funds from less developed to the more advanced states". While much depends on the level of economic activities and the ability of the state economies to utilize the available funds with the bank, the public sector banks have already been instructured by the RBI to advance atleast 60 per cent of the deposits in each state. It is for the states to take advantage of such facilities by adopting a modern scientific outlook towards the problem of socio-economic development.

Attempts are invariably being made to identify the reasonably efficient and economically viable projects (which form essential pre-requisite for allocation of resources) in the backward areas; for a voluminous diversion of funds alone is not enough either for alleviating poverty or for reducing income inequalities. The book has pertinently described the various

schemes and programmes launched by the Central and State Governments. The Chapters dealing with the development of rural areas backward areas and tribal areas have sufficiently spelt out the individual programmes.

The realization of the targets, it has been noted, has suffered more due to ineffective implemention of the relevant plans. This points to the fact that the lack of adequate development of human resources through education, health care and other welfare programmes has considerably impeded the realization of plan targets.

There is, however, ample evidence to show that due to ad hoc distribution of funds from the Central kitty some backward states received much less per capita financial resources than advanced states, although measuring the dimension of backwardness due to inequitable distribution is very difficult. The various issues of fiscal federalism which have been raised require a thorough examination in the framework of Indian federal polity as the case for a devolution of resources at a higher scale (and that on the basis of backwardness alone) has proved to be inadequate and unsound.

The discussion on inter-state projects like the Damodar Valley Corporation etc., is of immense help in detailing the mutual benefits derived by the states which are cooperating with one another. From observations and recommendations by working groups at various levels of planning, it has been concluded that for a balanced regional development 'it would be necessary to (i) create viable economic unit by combining villages into clusters; (ii) select-dynamic clusters; and (iii) locate growth centres. While no practical implementation of these remedies has been spelt out, it has been subsequently noted that' in any case development benefits are not likely to be distributed equitably over different areas and groups of people'.

This is good attempt to put together the widespread views on regional disparities, though it does not encompass some of the other significant aspects like intra-state and inter-personal inequalities in income and wealth. It should be of great assistance to both students and teachers.

M. M. Ansari

(Continued from page 20)

The inventory of minor forest produce and wildlife resources can wait until such time the first round of inventory of land and wood resources is complet ed. However, compilation of information available on these resources could be started.

Monitoring

The type of monitoring to be done is linked with the type of data collection. If the data collection is done in parts spread over a period of say 15 years monitoring would also be done in parts. The overall change in the forest resources of the country may not be known since different parts are covered at different times and changes in two parts would cease to be additive because of different basetime.

Monitoring the changes is done through one of the four general methods of continuous forest inventory. And in this context it is essential that the system of continuous forest inventory to be adopted is decided at the beginning of the first round itself. Because in case any system involving re-inventory of older sample plots is adopted the precise technique of relocating the sample plots on the ground after the lapse of considerable period of say 10--15 years should be evolved. This is important in a country like ours where rapid deforestation has been the trend.

Conclusion

With the increased emphasis on the forestry sector a rational forestry planning at national and state level is urgently needed for the better conservation of fast depleting forest resources. The data required for such plans should be collected and presented in utilisable form by Forest Survey of India by carrying out nationwide forest resources inventory. Periodical inventories would of course, be necessary for monitoring the changing situation. And the working plans which form the fundamental document of forest management should be cast in the light of priorities of national and state level plans to be meaningful under the present day context. □

Special programmes for rural development

The Drought Prone Areas Programme, started in 1970-71, and the Desert Development Programme in 1977-78 are conceptually sound and the schemes adopted under these are suitable for realising the required objectives, according to a report presented by the Sub-Group on Area Development and Land Reforms constituted by the main Working Group on the "Special Programmes of Rural Development for the Seventh Five Year Plan (1985—90).

The basic objective of these two programmes is the restoration of the ecological balance of the areas covered by them through the development and management of the irrigation potential, promotion of soil and moisture conservation, afforestation, livestock and pasture development etc. Both programmes are premised upon the idea that there should be a balance between natural resources and animal population of the area.

An evaluation of the Panchmahal district of Gujarat indicates that irrigation under the programme has increased the intensity of cropping by 15 per cent. The income of farmers has also gone up by 50 per cent to 70 per cent. Another study shows that in the Palamau district of Bihar, the reservoir development schemes have caused appreciable rise in the water table. This has reduced considerably the scarcity of drinking water and raised the yield of paddy and wheat by 26 per cent to 28 per cent.□

Seventy-five per cent increase in cement production

THE CEMENT PRODUCTION is expected to reach 32 5 million tonnes during 1984-85 as against 18 6 million tonnes during 1980-81 recording an increase of nearly 75 per cent. The cement production was 27 million tonnes last year.

The cement industry has made commendable progress and the installed capacity during the Sixth Five Year Plan has almost doubled. From 24 3 million tonnes it is expected to go up to 44 million tonnes at the close of the Sixth Five Year Plan exceeding the target of 43 million tonnes.

The Government has encouraged the industry to set up captive power plants to meet at least 40 per cent of the power requirements. After the introduction of policy of partial decontrol the cement industry has put up substantial additional captive generation of about 150 MW, both thermal and diesel leading to additional production of almost one million tonnes of cement in 1983-84. Additional capacity to generate captive power to the extent of 220 MW is in the pipeline. The captive generation capacity which is at present adequate to meet 35 per cent of the total power requirements would go up to 60 per cent. ☐

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So wrote Abraham Lincoln to a headmaster

"HE WILL HAVE TO LEARN, I know, that all men are not just, all men are not true. But teach him also that for every scoundrel there is a hero; that for every selfish politician, there is a dedicated leader .. . Teach him that for every enemy there is a friend. It will take time, I know; but teach him, if you can, that a dollar earned is of far more value than five found .. .Teach him to learn to lose ..and also to enjoy winning. Steer him away from envy, if you can, teach him the secret of quiet laughter. Let him learn early that the bullies are the easiest to lick . Teach him, if you can, the wonder of books .but also give him quiet time to ponder the eternal mystery of birds in the sky, bees in the sun, and flowers on a green hillside.

"In school, teach him it is far more honourable to fail than to cheat Teach him to have faith in his own ideas, even if everyone tells him they are wrong ..Teach him to be gentle with gentle people, and tough with the tough. Try to give my son the strength not to follow the crowd when everyone is getting on the bandwagon. Teach him to listen to all men .; but teach him also to filter all he hears on a screen of truth, and take on the good that comes through.

"Teach him, if you can, how to laugh when he is sad . Teach him there is no shame in tears. Teach him to scoff at cynics and to beware of too much sweetness . ..Teach him to sell his brawn and brain to the highest bidders, but never to put a price tag on his heart and soul. Teach him to close his ears to a howling mob . .and to stand and fight if he thinks he's right.

"Treat him gently, but do not cuddle him, because only the test of fire makes fine steel. Let him have the courage to be impatient ....., let him have the patience to be brave. Teach him always to have sublime faith in himself, because then he will always have sublime faith in mankind." ☐

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